

29 July 2022

## 30 JUNE 2022 QUARTERLY ACTIVITIES REPORT

### HIGHLIGHTS

The Board of Dreadnought Resources Ltd (ASX:DRE) ("Dreadnought" or "the Company") is pleased to provide a summary of activities for the quarter ended 30 June 2022. Activities and achievements during the quarter include:

#### **Mangaroon REE & Au (100%):**

As announced on 16 June 2022 RC drilling had commenced at the Rare Earth Element ("REE") bearing ironstones and carbonatites prospects at the 100% owned Mangaroon Project.

Initial drilling of the >2.5km long, outcropping, Yin ironstone has intersected thick, high-grade REE mineralisation in all six of the first drill holes. Significant results from the first line of drilling (confirmed by laboratory assays on 28 July 2022) at Yin include:

- **YINRC005: 35m @ 2.75% TREO from 94m, including 15m @ 4.08% TREO from 105m**
- **YINRC001: 34m @ 2.59% TREO from surface, including 10m @ 6.05% TREO from 11m**
- **YINRC002: 31m @ 1.73% TREO from 24m, including 7m @ 3.47% TREO from 29m**
- **YINRC003: 21m\* @ 2.01% TREO from 50m, including 11m @ 3.11% TREO from 58m (\*does not include a 4m cavity from 54-58m – otherwise a 25m thick intercept)**

Subsequent to the end of the quarter and as announced on 25 July 2022, RC drilling at the Yin Rare Earth Element ("REE") prospect has confirmed the genuine scale potential of the REEs with mineralised ironstones identified over 3kms of strike and remaining open in all directions and at depth.

67 RC holes (6,415m) have been completed to date confirming thick, mineralised, REE ironstones including further evidence of parallel lodes along strike. Encouragingly, 87% of holes drilled to date have intersected mineralisation as confirmed by pXRF in the field.

Initial assay results have experienced delay in the lab and are now expected in late July 2022, with further assays expected to follow regularly thereafter.

Infill drilling at Yin has commenced with an initial JORC Mineral Resource expected in the December 2022 quarter. Extensional drilling is ongoing, and a diamond rig commences in late July 2022.



Drilling at Y3 (rock chips up to 39.7% TREO (6.30% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>)) and at five carbonatite targets (C1-C5) will commence in August 2022. Importantly, the carbonatites could be the source REE intrusions for the region.

66 additional REE targets identified from magnetic/radiometric surveys are undergoing assessment.

**Figure 1: Dreadnought's Luke Blais, Frank Murphy, Matt Crowe and Sam Buseti holding the Discovery chip trays from YINRC001 containing 34m @ 2.59% TREO from surface.**



## **SNAPSHOT - MANGAROON RARE EARTHS**

### **100% Controlled by Dreadnought**

- Mangaroon REE are 100% owned and controlled by Dreadnought

### **Genuine scale potential already at Yin with initial JORC Resource expected in the December 2022 quarter**

- Yin already contains 3km of mineralised strike and remains open along strike and depth

### **Significant, Step-Change, Growth Potential Beyond Yin**

- Mineralised Y2 and Y3 REE ironstones confirmed - drilling in August 2022
- Five carbonatite targets (C1-C5) may be the regional source of REE – drilling in August 2022
- Confirmed mineralisation at 13 outcropping targets with another 3 prospective, undercover targets – drilling planned
- 66 additional anomalies prospective for REE identified – currently under assessment

### **High-Grade TREO potential**

- Assays from first line of drilling at Yin contain high-grade REE including:
  - YINRC005: 15m @ 4.08% TREO from 105m
  - YINRC001: 10m @ 6.05% TREO from 11m
  - YINRC002: 7m @ 3.47% TREO from 29m
  - YINRC003: 11m @ 3.11% TREO from 58m
- Rock Chips up to 39.7% TREO (6.30% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>) from Y3

### **High-grade Neodymium and Praseodymium Potential**

- Yin, like the Yangibana REE project controlled by the ~\$450M Hastings Technology Metals Ltd (ASX.HAS), appears to be a globally unique REE deposit due to the high proportion of neodymium and praseodymium in the total rare earth oxide (NdPr ratio).

### **Positive Metallurgy Results**

- Initial metallurgical work from Yin performed well, achieving a recovery of 92.8% at a concentrate grade of 12.3% Nd<sub>2</sub>O<sub>3</sub> and an average 40% TREO.
- Minerals hosting the REE at Yin are predominantly monazite which are amenable to commercial processing.

### **Analogous to a Globally Unique, Commercially Viable Development 25kms Away**

- Yangibana is Dreadnought's immediate neighbour located only 25km to the northeast of Yin.
- Yangibana currently has a JORC Resource\* of 27.42Mt @ 0.97% TREO with 0.33% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>.
- Yangibana is under construction and development with first production planned for 2024.

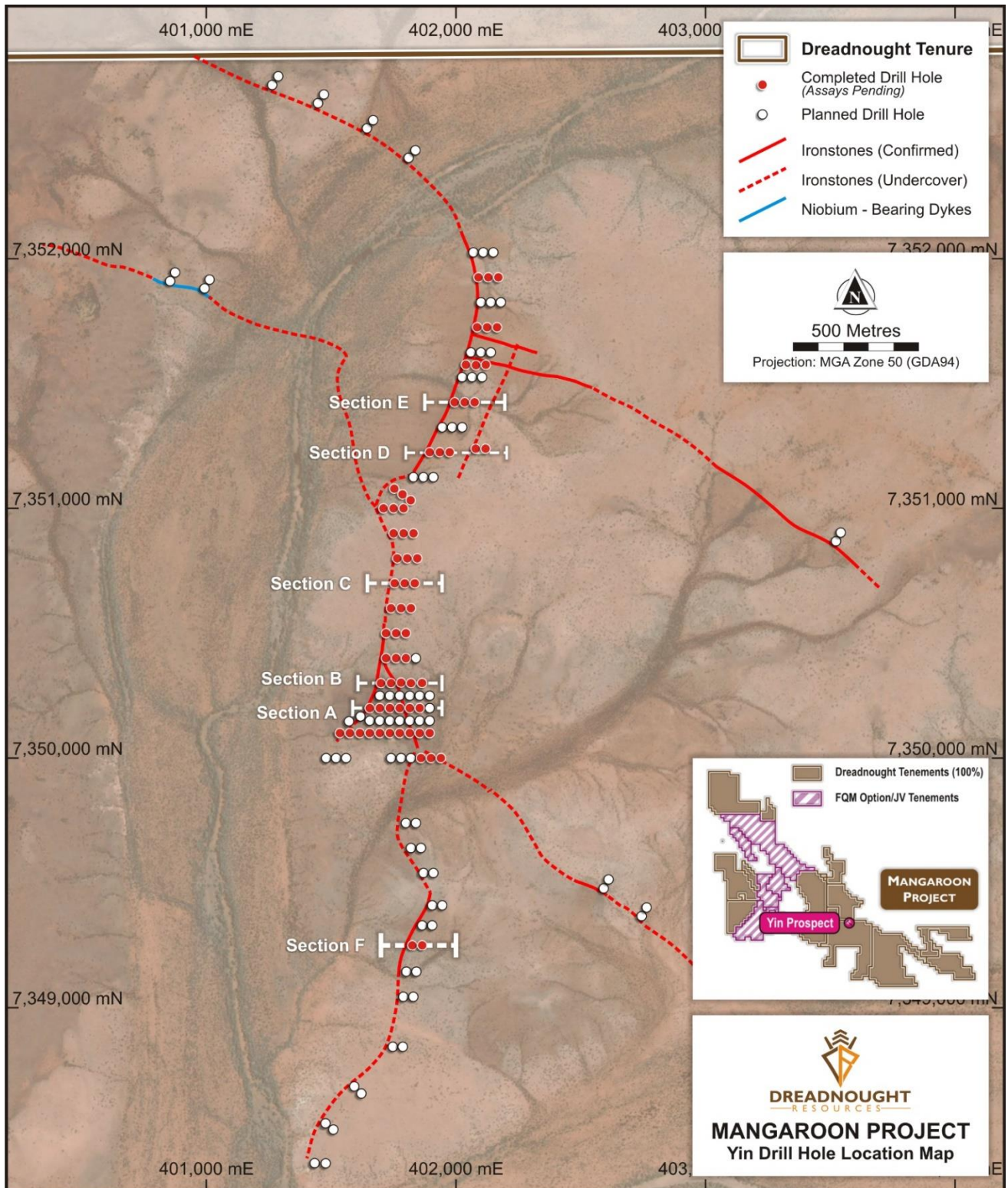
### **Global Strategic Imperative Driving Rare Earth Growth & Prices**

- Supply chain security and low carbon transition are imperatives against a backdrop of heightened geopolitical tension pushing supply away from China.

*\*HAS.ASX: 5 May 2021 "Yangibana Project updated Measured and Indicated Resource tonnes up by 54%"*



**DREADNOUGHT**  
RESOURCES



**Figure 2: Plan view over an orthoimage showing the location of the recently drilled holes (red dots) successfully identifying REE over 3km. Planned infill and extensional holes (white dots) are also shown.**

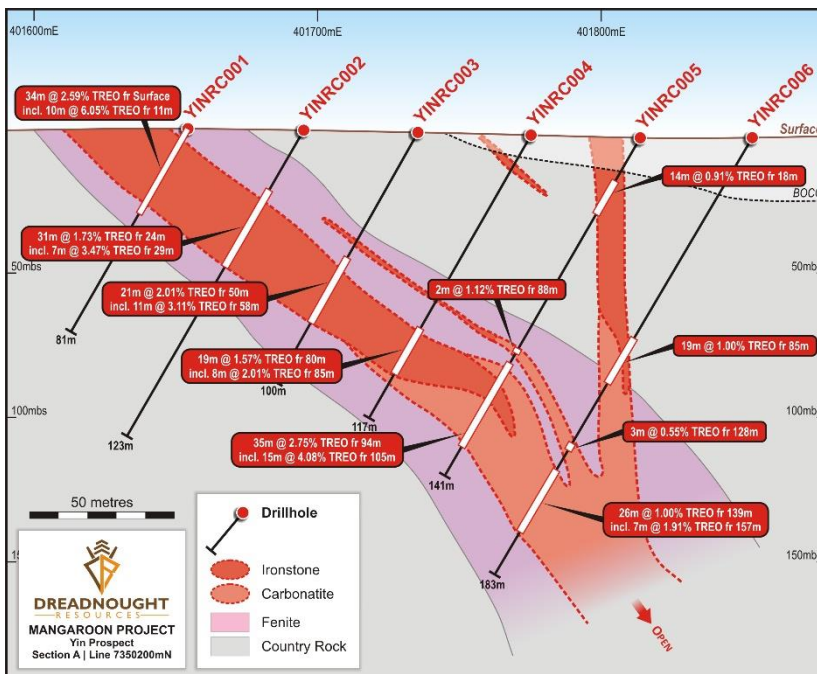


## RC Drill Program (YINRC001-YINRC067)

To date the RC program has comprised 67 holes for ~6,415m (red dots on Figure 2).

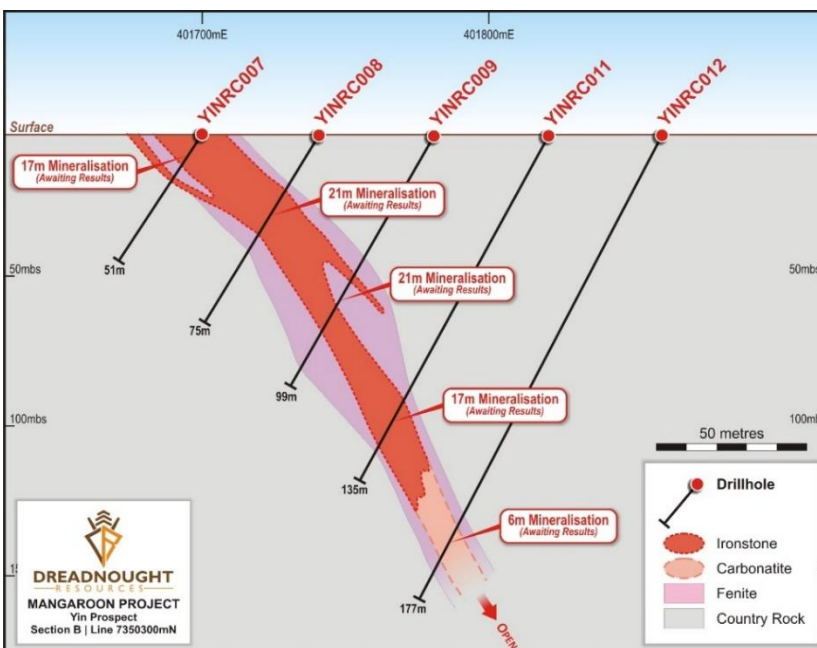
The program commenced on Section A (Figure 3) in June 2022 and successfully intersected REE ironstones. Significant results from the first line of drilling (confirmed by laboratory assays on 28 July 2022) at Yin include:

- **YINRC005: 35m @ 2.75% TREO from 94m, including 15m @ 4.08% TREO from 105m**
- **YINRC001: 34m @ 2.59% TREO from surface, including 10m @ 6.05% TREO from 11m**
- **YINRC002: 31m @ 1.73% TREO from 24m, including 7m @ 3.47% TREO from 29m**
- **YINRC003: 21m\* @ 2.01% TREO from 50m, including 11m @ 3.11% TREO from 58m (\*does not include a 4m cavity from 54-58m – otherwise a 25m thick intercept)**

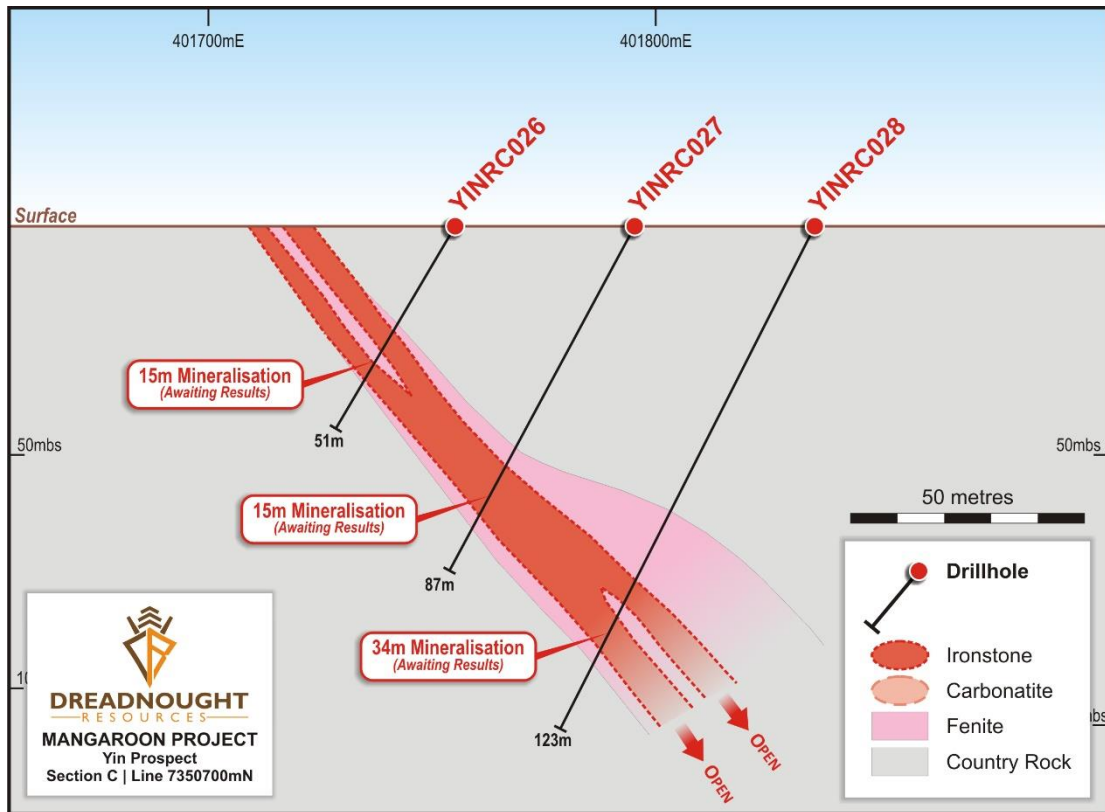


Subsequent lines were drilled to the north for 2km at ~200m spacings and generally drilled outcropping ironstones. Sections B to E below show representative cross sections from the northern lines which indicate some pinching and swelling of the mineralisation along with a strong consistency of mineralisation over the 2km of outcropping ironstones.

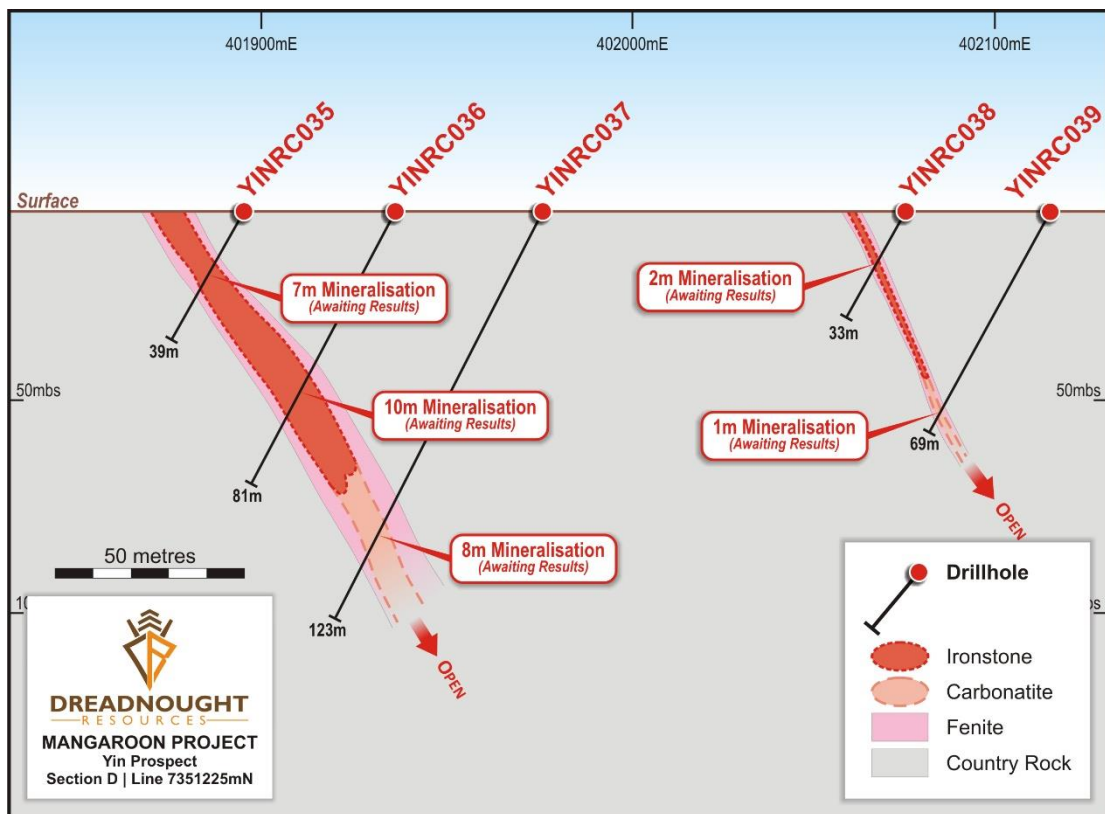
**Figure 3: Cross section A shows drilling has intersected a shallowly-dipping 20-40m wide western, and a 10m-wide steeply dipping eastern ferrocarbonatite that is weathered to an oxide ironstone in the top 80 vertical metres.**



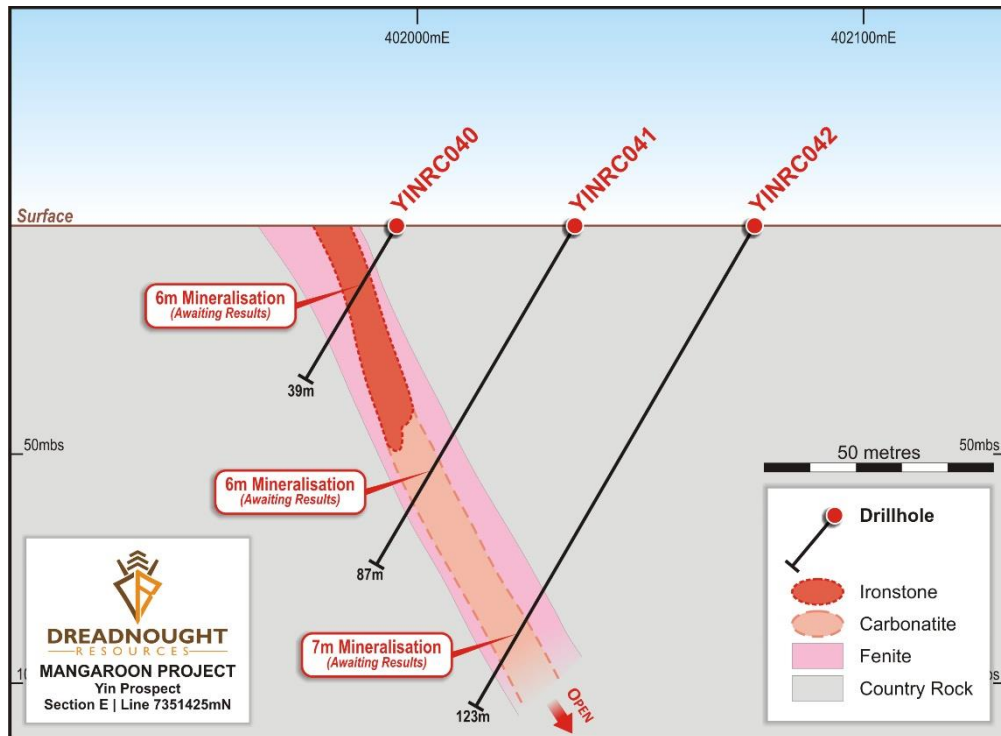
**Figure 4: Cross section B shows drilling has intersected a moderately dipping ~20m wide oxide ironstone transitioning into a fresh ferrocarbonatite dyke at depth (fresh ironstone).**



**Figure 5: Cross section C shows drilling has intersected a moderately-dipping ~15-30m wide oxide ironstone getting thicker with depth associated with a broadening of the fenitic alteration.**

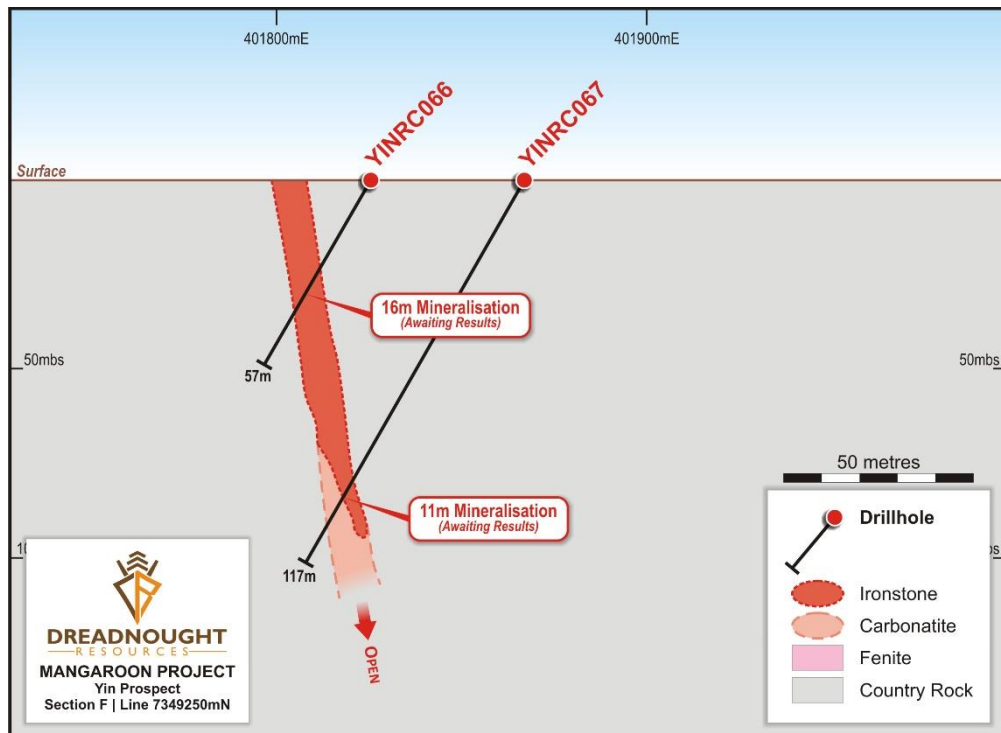


**Figure 6: Cross section D is the only section drilled to date targeting a mapped parallel lode off the main trend which will be targeted further in future drilling.**



**Figure 7: Cross section E showing the main lode horizon steepening to the north and with shallower oxidation of the REE ironstone.**

Section F was drilled ~1km south of Section A and targeted undercover extensions of Yin identified in recent magnetic surveys. This has been an important outcome and confirms magnetic surveys as an effective targeting tool for undercover mineralisation.



**Figure 8: Cross section F, drilled ~1km south of the initial Yin drill line (cross section A) showing thick ironstone mineralisation extending to the south, with significantly less fenite alteration.**



### Technical Discussion on the RC Drill Program (YINRC001-YINRC067)

Yin is a >3km long REE bearing ironstone swarm that both outcrops and extends under shallow cover. Yin shows evidence for parallel or stacked ironstone horizons (see Figures 2, 3 and 6). Rock chips collected in 2021 showed consistent mineralisation over ~2.5km of outcropping ironstone with values up to 13.0% TREO and a general trend of the neodymium and praseodymium to TREO ratio ( $\text{Nd}_2\text{O}_3 + \text{Pr}_6\text{O}_{11}:\text{TREO}$ ) increasing to the north.



**Figure 9: Chip tray from YINRC001 showing mineralised oxidized ironstone from 1-34m and grading into dark fenitic alteration.**

Drilling to date has confirmed the presence of the main REE bearing lode horizon along ~3km of strike often with multiple parallel lodes intersected down hole. The main lode horizon pinches, swells and changes dip and orientation along strike ranging in thickness from 1-34m. The parallel lodes have been intersected above and below the main lode and often, exhibit a similar orientation as the main lode with thickness ranging from 1-10m.

The REE bearing ironstones consist of goethite and hematite dominated oxide zones near the surface (top ~80m) transitioning into a fresh ferrocarnatite dyke (fresh REE ironstone), comprised of ankerite and siderite below the base of oxidation. The ironstones are surrounded by a variable zone of fenitised country rock. Both the ironstone and the fenite immediately surrounding the ironstone are mineralised with each ironstone and ferrocarnatite containing a central interval of higher-grade mineralisation.



**Figure 10: Chip tray from YINRC006 showing dark fenitic alteration grading into two mineralised fresh ironstones (ferrocarnatite) from 127-131m and 139m-160m.**

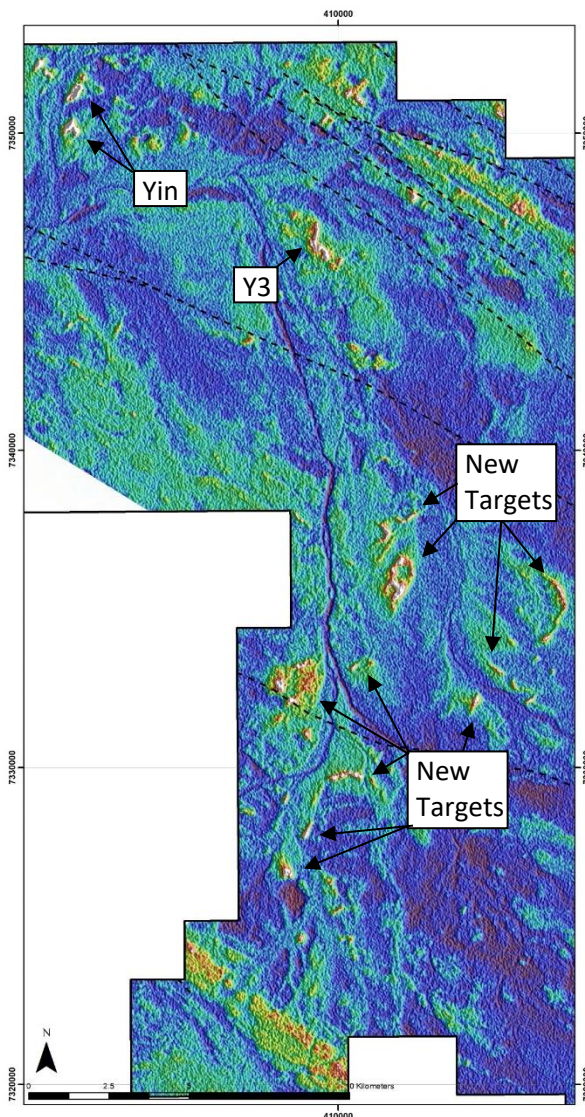
### Yangibana REE ironstones (E09/2448, E09/2450, E09/2535: DRE 100%)

The Yangibana ironstones are readily accessible and located 5-20kms from the Cobra-Gifford Creek Road. The ironstones were first explored in 1972 for base metals. The REE potential of the ironstones was first assessed in 1985 and has seen substantial work by Hastings Technology Metals Ltd (“Hastings”) since 2011. The ~\$450m Hastings (ASX.HAS) controls the Yangibana Ironstone Project and is Dreadnought’s immediate neighbour being to the north of the Lyons River Fault.

Yangibana currently has a JORC 2012 Mineral Resource\* of 27.42Mt @ 0.97% TREO with 0.33% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub> and is under construction and development. The high proportion of Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub> (used for electric vehicle magnets and renewable power generation) are an important component of Yangibana’s economics.

Prior to Dreadnought, no significant REE exploration was undertaken south of the Lyons River Fault being the point at which the Yangibana REE ironstones were considered to terminate.

### Mangaroon REE ironstones (E09/2448, E09/2450, E09/2535: DRE 100%)



The outcropping Yangibana REE ironstones have a distinctive radiometric anomaly and appear as gossanous iron rich outcrops visible in ortho-imagery. From June to September 2021, Dreadnought announced the identification of the Yin, Y2 and Y3 REE ironstones using wide spaced 1990s government radiometric data and modern ortho-imagery. From September to November 2021, Dreadnought undertook a ~43,000-line kilometre magnetic-radiometric survey resulting in the identification of five carbonatite targets (C1-C5).

Dreadnought has recently completed a project wide targeting exercise of the substantial and detailed magnetic-radiometric survey which has resulted in the identification of 85 anomalies prospective for REE mineralisation. To date, only 19 of these anomalies have been mapped and sampled resulting in the confirmation of outcropping REE mineralisation at 13 targets with an additional 3 targets determined to be prospective but undercover and 3 targets considered un-prospective. Most of these targets make up and are located around Yin, Y2, Y3 and C1-C5. There remain 66 targets to be mapped and sampled located within a 40km radius of Yin, Y2, Y3 and C1-C5.

Mapping and sampling of the remaining 66 targets has commenced with results expected from August through October 2022.

*\*HAS.ASX: 5 May 2021 “Yangibana Project updated Measured and Indicated Resource tonnes up by 54%”*

**Figure 11: Image of a portion of the Thorium radiometric image showing the location of Yin, Y3 and some of the new targets to be assessed.**



### **Mangaroon Carbonatites C1-C5 (E09/2448, E09/2450: 100% DRE)**

Dreadnought's recently flown airborne magnetic and radiometric survey highlighted five ovoid features (Figure 13) interpreted as igneous carbonatite intrusions (C1-C5 targets). The intrusions range in size from 1,000m x 1,000m to 800m x 500m in dimension with internal ringing and a magnetic, possibly fenitic alteration, halo around the perimeter of the intrusions. Over 95% of the interpreted carbonatite intrusions are obscured by a calcrete and alluvial plain with rare outcrop.

Rock chip samples collected from the few outcrops within C3 and C4 confirmed REE and phosphate ("P2O5") mineralised carbonatites. Significant results include:

- **MNRK0545: 2.52% TREO (0.65% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>)** • **MNRK0547: 1.98% TREO (0.59% Nd<sub>2</sub>O<sub>3</sub>+Pr<sub>6</sub>O<sub>11</sub>)**
- **MNRK0542: 15.5% P<sub>2</sub>O<sub>5</sub> and 0.72% TREO**

XRD analysis has also identified dolomite, microcline, and clinopyroxene, likely aegirine, confirming dolomitic carbonatites.

The intrusions are central to all known REE and niobium bearing ironstone dykes, fitting the classical carbonatite intrusion model. Ground truthing has confirmed the presence of intrusive carbonatite within these features.

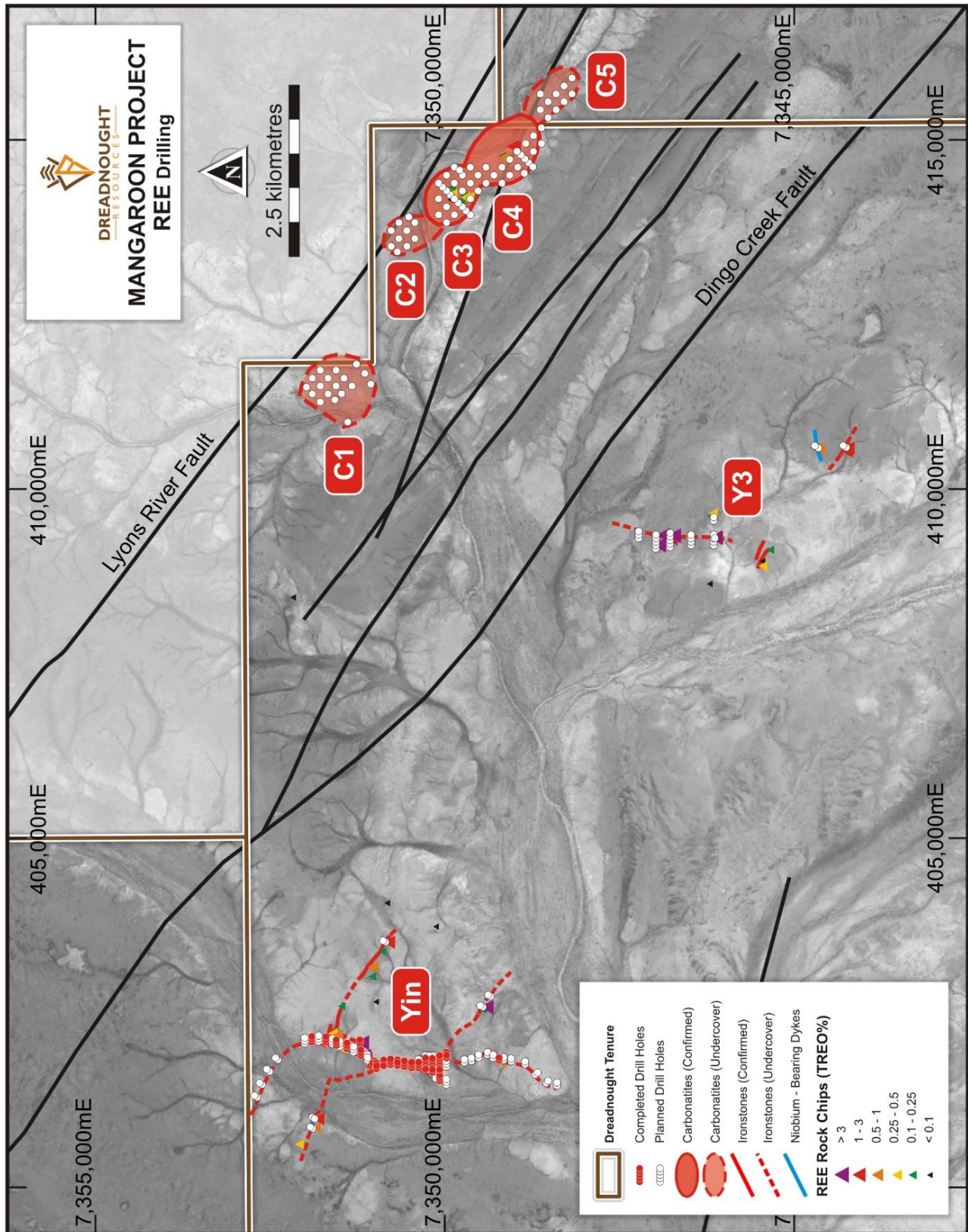
Outcrops sampled consisted of both fresh and weathered carbonatites with both rock types returning REE and phosphate mineralisation with higher grades coming from weathered carbonatites. This is similar to the mineralisation at Mt Weld in Western Australia and Araxa in Brazil.

The carbonatites remain largely obscured under calcrete cover. Systematic RC drilling will be undertaken at the C1-C5 targets in August-September 2022. This program will identify areas of mineralisation under cover and improve the understanding of this obscured and newly discovered system.



**Figure12: Dreadnought's Luke Blais collecting rock chip MNRK0545: 2.52% TREO from a weathered portion of the C4 Carbonatite.**



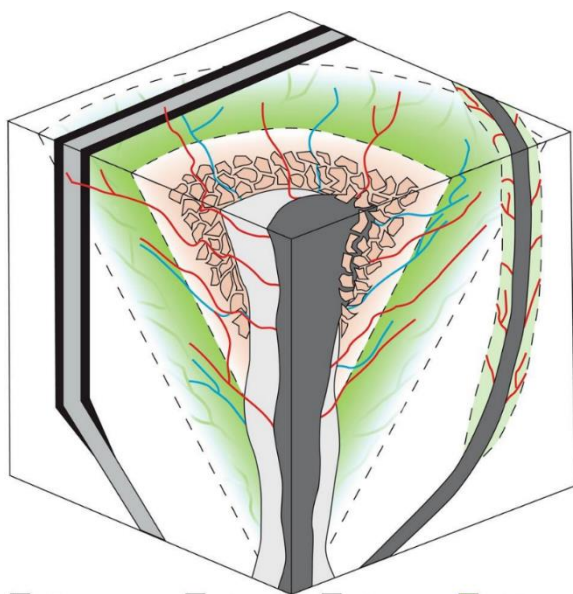


**Figure 13: Plan view image showing the location of recent drilling (red dots) and planned drilling (white dots) in relation to the REE ironstones (Yin, Y3) and REE carbonatites (C1-C5) over an orthoimage.**

## Regional REE Carbonatite Model

The classic carbonatite model envisions multiple pulses of carbonatites intrusions associated with radial or ring like REE bearing ironstone dykes and sills and niobium bearing veins all associated with widespread fenite alteration of the host rocks. These intrusions are nearly always associated with major crustal scale structures, at Mangaroon that would be the Lyons River Fault which is a major crustal scale structure. Economic mineralisation is often concentrated within the carbonatite plugs (as primary magmatic, structural/vein hosted or residual enrichment) with additional minor mineralisation associated with the radial and ring ironstone (ferrocarbonatite) dykes.

The Yangibana, Yin, Y2 and Y3 ironstones are weathered REE enriched dykes. Niobium rich veins have also been reported from drilling at Yangibana, Y3 and Y2. Since 1991, explorers, geological surveys and academics have searched for the intrusive carbonatite sources that could explain the local proliferation of REE. These carbonatite intrusion sources have the potential to host significantly more mineralisation than the surrounding ironstones.



Previously, the carbonatite intrusions were believed to be blind and deep beneath the local REE ironstones as mineralisation was believed to have stopped at the Lyons River Fault – a major mantle tapping crustal scale structure.

The identification and confirmation of mineralised carbonatite intrusions has the potential to be a game changer for the region.

**Figure 14: Block diagram summarizing the spatial relationships and timing between events related to carbonatite intrusions – of particular note is the relationship of REE-bearing veins (ironstones) and Nb-bearing veins forming outwards from a central carbonatite intrusive centre <sup>1</sup>.**

1. Elliot, H.A.L., et. al., Fenites associated with carbonatite complexes: A review. *Ore Geology Reviews* v93, pp28-59, 2018)

## Further Gold Consolidation (E09/2405)

During the quarter and as announced on 17 June 2022, Dreadnought acquired the Option to acquire 100% of E09/2405 which is strategically located between Dreadnought's recently acquired Diamond's Gold Mine and the high-grade Star of Mangaroon Gold Mine.

E09/2405 is ~ 50km<sup>2</sup> in area and is prospective for gold with a major linking structure between Diamonds and Star of Mangaroon, alluvial gold and numerous stream sampling anomalies. Planned work over the next 12 months includes further stream sediment sampling, prospecting and follow up mapping, soils and rock chipping.

Key transaction terms included:

- Option fee of \$10,000;
- Option term of 12 months ending on 13 June 2023; and
- Option exercise price of \$50,000.



### **Money Intrusion Ni-Cu-PGE (FQM JV):**

As announced on 10 June 2022 drilling was successfully completed.

Disseminated to net-textured/brecciated magmatic Ni-Cu sulphide (pyrrhotite-chalcopyrite-pentlandite) mineralisation has been intersected in nine out of twelve RC holes, covering only ~10% of strike along the ~45km long Money Intrusion.

The Money Intrusion has been confirmed as having a bladed/funnel shape with mineralisation along both sides of the intrusion, highlighting the potential for massive sulphide mineralisation at depth.



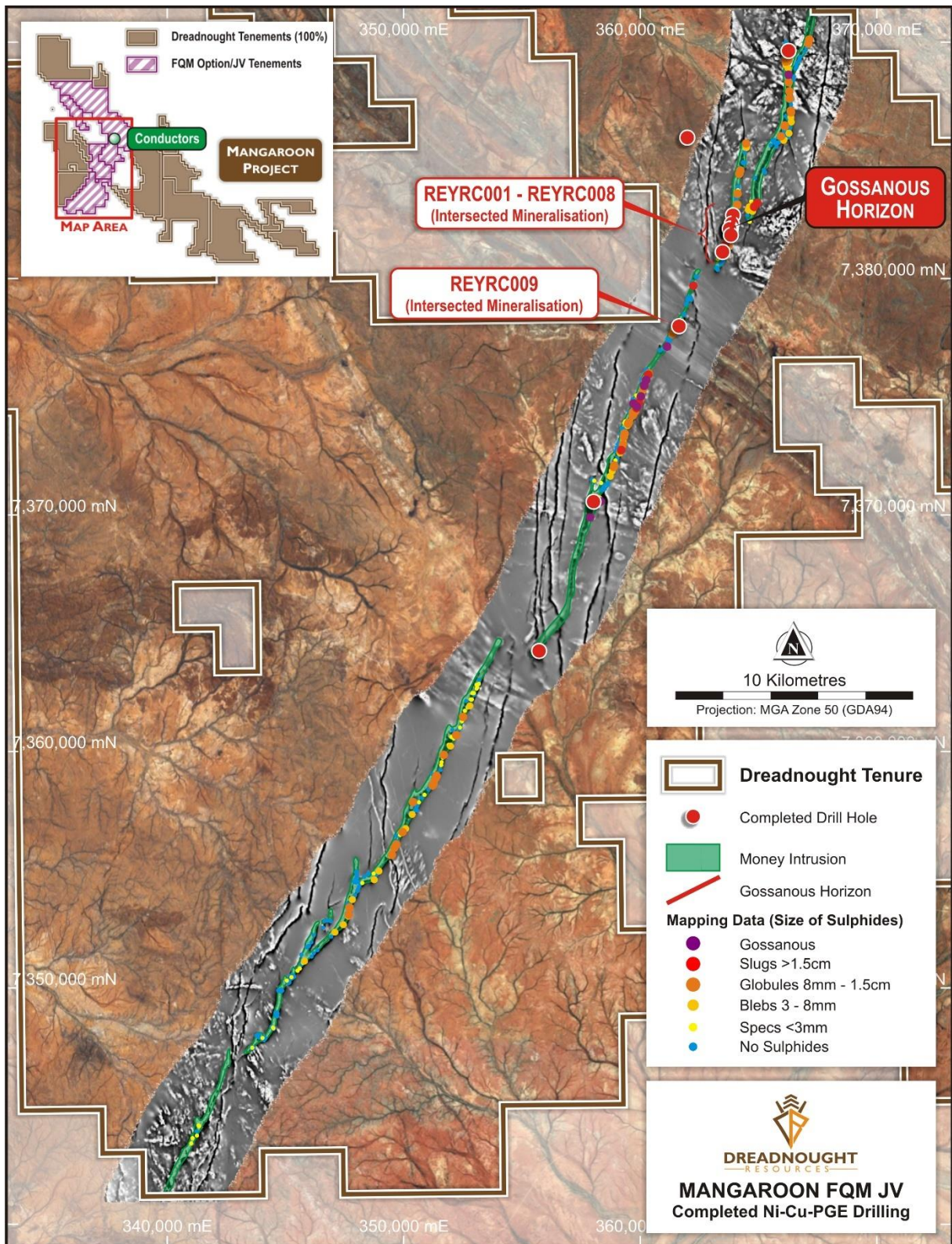
Assays and down hole EM results expected throughout August/September 2022. This program is entirely funded by First Quantum Minerals under the joint venture option ("FQM JV").

**Figure 15: First Quantum geologist Chris Manners inspecting sulphide mineralisation from drilling at the Money Intrusion**



**Figure 16: RC drill rig collaring REYRC009 into the Money Intrusion at Mangaroon.**





**Figure 17: Plan view image of recently drilled holes (red dots) in relation to mineralised rock chips and mapped gossanous horizon along the ~45km long Money Intrusion over magnetics and orthoimage.**



## Discussion of Ni-Cu-PGE Drilling (E08/3274: (FQM JV))

Twelve RC drill holes (1,862m) have been completed along only ~10% of the ~45km long Money Intrusion.

Eight holes (1,394m) targeted both margins of the intrusion that contained gossanous outcrops and a small coincident fixed loop EM conductor. These holes were designed to test for mineralisation and to provide down hole EM platforms to explore the intrusion at depth. The holes were collared into the gabbroic core of the intrusion before passing into a footwall olivine dolerite and finishing in gneissic country rock. Drilling of the eastern and western margins of the intrusion confirmed that both sides of the dyke are dipping inwards in supporting a bladed/funnel shaped dyke. Pleasingly, all eight drill holes intersected disseminated sulphides with holes REYRC001, REYRC002z, REYRC006 and REYRC007 containing an increase in disseminated sulphides before intersecting net-textured/brecciated sulphide near the contact with the country rock. All sulphide mineralisation consists of pentlandite ( $(\text{Fe,Ni})_9\text{S}_8$ ), chalcopyrite ( $\text{CuFeS}_2$ ) and pyrrhotite ( $\text{Fe}_{(1-x)}\text{S}$ ). In addition to the observed mineralisation, the presence of Ni and Cu was confirmed by handheld XRF.

A single hole REYRC009 (153m) successfully drilled a gossanous outcrop within the High Range – where the Money Intrusion crosses a basin of Edmund Group sediments. Drilling collared into a coarse to medium grained pyroxenite intrusion before passing into an olivine and disseminated sulphide bearing unit near the contact with the underlying sulphidic sedimentary rocks. The confirmation of pyrrhotite-chalcopyrite-pentlandite mineralisation within the High Range is significant as the majority of the Money Intrusion does not outcrop within the High Range. This result indicates that the mineralisation could extend to at least ~4.5kms in strike.



REYRC012 (159m) was drilled immediately off the termination of a segment of the Money Intrusion outcrop. The hole drilled over 140m before intersecting the Money Intrusion, confirming the plunging nature of the bladed/funnel shaped intrusion. This further highlights the potential to host massive sulphide mineralisation along trap sites within deeper portions of the intrusion.

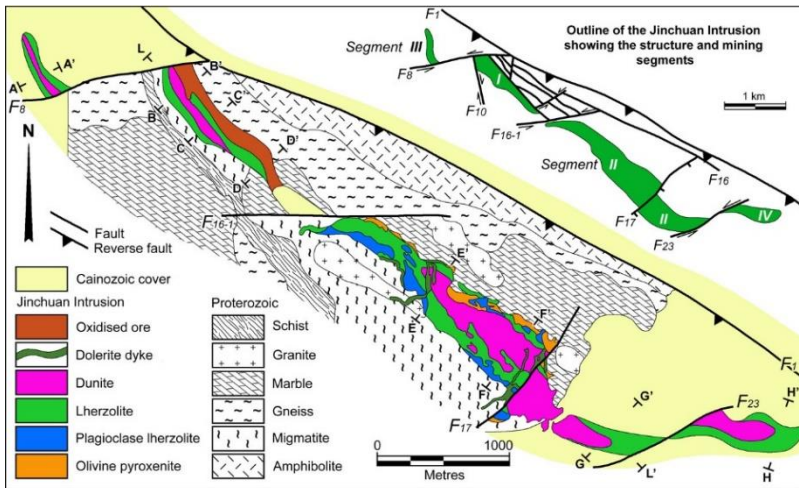
**Figure 18: RC chips from REYRC002 79-80m showing net-textured / brecciated Ni-Cu sulphides (~15-20%) comprised of pyrrhotite, chalcopyrite and pentlandite.**



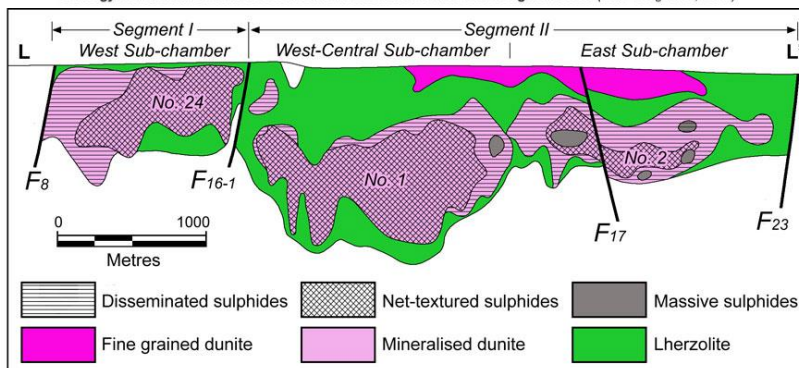
## Implications for the Money Intrusion (E08/3178, E08/3274, E09/2384, E09/2433, E09/2473: (FQM JV))

The confirmation of a fertile magmatic Ni-Cu-PGE system within the Money Intrusion highlights the potential of the ~45km long intrusion to host multiple bodies of Ni-Cu-PGE mineralisation. The Money Intrusion has been dated to ~0.8 Ga, similar in age and tectonic setting to the Jinchuan Ni-Cu-PGE deposit in China (>500 Mt @ 1.2% Ni, 0.7% Cu, ~0.4 g/t PGE).

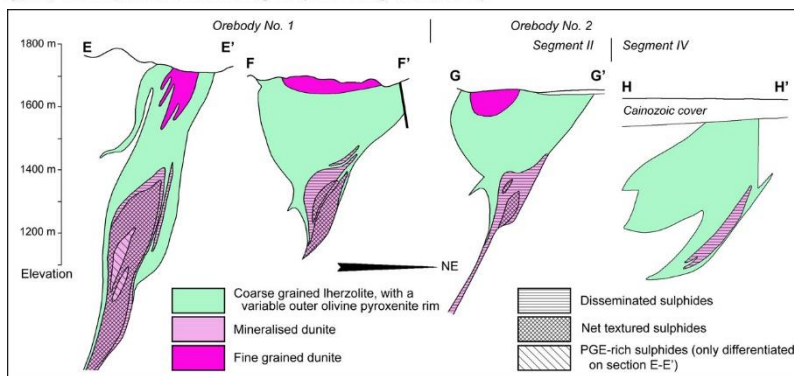
Jinchuan contains three main mineralised bodies over ~6.5kms of strike each situated within a sub-chamber of the overall intrusion. Mineralisation is dominated by net-textured and disseminated sulphides with minor massive sulphide accumulations. Importantly, the disseminated sulphides form an envelope around the higher-grade, net-textured and massive sulphides. Furthermore, only one of the mineralised bodies outcrops, with the other two deposits blind at surface (Figure 4).



Geology and structure of the Jinchuan ultramafic intrusion and enclosing wall rocks (after Song et al., 2012)



Longitudinal projection along the Jinchuan ultramafic intrusion segments I and II, showing ore types, ore deposits and lithologies (after Song et al., 2012)



Representative cross sections showing the geology and mineralisation of the Eastern Jinchuan Ultramafic Intrusion, in segments II and IV (sections E-E' and G-G' after Song et al., 2006; F-F' and H-H' after Song et al., 2012). See the geological map for section lines.

Figure 19: Plan view (top) and long section (middle) and cross section (bottom) of Jinchuan, highlighting that most of the mineralisation does not outcrop at surface.

The implications of the analogous Jinchuan deposits to the Money Intrusion are significant for both the current and future drilling. The first holes have intersected disseminated mineralisation along significant strike showing increasing width and intensity towards the middle and at depth. There remains significant potential for this system to improve with depth and within the strike already defined.

Furthermore, given the ~45kms of strike over the Money Intrusion with evidence of pinching, swelling, multiple feeder channels and mapped disseminated sulphides, there could be significant mineralisation that does not outcrop.

Further drilling and geophysics along the Money Intrusion will assist with better understanding the system and in identifying further mineralisation.

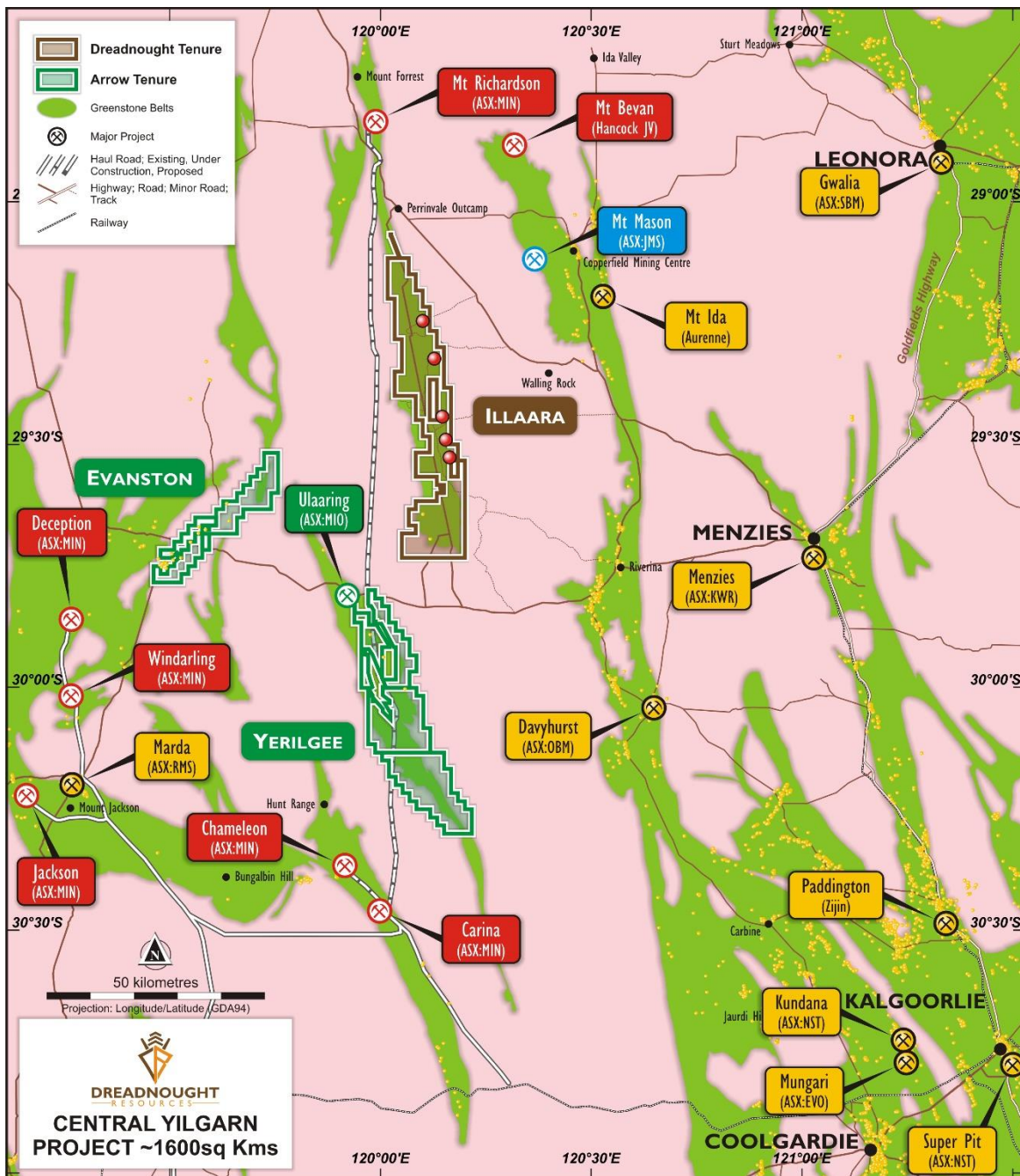
## Central Yilgarn (100%)

### Exercise of Option Consolidates Ownership of the Illaara Project:

Subsequent to the end of the quarter and as announced on 7 July 2022, Dreadnought has exercised its option securing 100% ownership over tenements E29/965 and E30/485 within the Illaara Project.

These tenements cover parts of the Kings and P1 iron ore occurrences including significant magnetite banded iron formations, the Central Komatiite belt, currently under assessment for nickel sulphides, the eastern extensions of the Peggy Sue pegmatite field as well as several VMS and gold prospects many with samples awaiting assay.

The exercise provides 100% ownership over the highly prospective, 75km long, Illaara Greenstone Belt.



**Figure 20: Plan view of the Central Yilgarn Project showing main prospects and basement geology.**



## Significant Regional Consolidation

Subsequent to the end of the quarter and as announced on 11 July 2022, subject to completion Dreadnought has acquired 100% of seven tenements covering ~100 strike kilometres over the Evanston and Yerilgee greenstone belts (~740sq kms) west of and adjacent to the Illaara greenstone belt. The consolidated greenstone belts form one project being the Central Yilgarn Project.

Since 2016, Arrow Minerals Ltd (ASX:AMD; “Arrow”) has undertaken first-pass, gold exploration, resulting in numerous gold occurrences with significant intercepts including:

- **T1 Prospect: 15m @ 1.5 g/t Au including 3m @ 6.7g/t Au from 12m\***
- **T2 Prospect: 21m @ 1.1g/t Au including 3m @ 2.3g/t Au from 63m\***
- **Phil’s Lode Prospect: 24m @ 1.6g/t Au including 9m @ 3.3g/t Au from 12m\***
- **Snowflake Prospect: 16m @ 1.9 g/t Au including 4m @ 8.5g/t Au from 0m\***
- **Megatron Prospect: 9m @ 2.6 g/t Au including 3m @ 7.1 g/t Au from 26m\***

*\*For further information please refer to the previous AMD announcements as referenced in the DRE release on 11 July 2022.*

The gold prospects have had limited to no follow up drilling. Other commodities such as iron ore, LCT pegmatites and komatiite hosted nickel sulphides have received limited attention.

A Senior Exploration Geologist (Leah Dawson) who is familiar with the project and the team, has been recruited to focus exclusively on the Central Yilgarn Project.

Key commercial terms for the transaction are summarised below:

- Dreadnought to acquire 100% of E16/495, E30/493, E30/494, E77/2403, E77/2416, E77/2432, E77/2634 upon Completion;
- Dreadnought paid \$20,000 upon signing the Sale & Purchase Agreement;
- Dreadnought to pay \$280,000 at Completion;
- Arrow to receive 2,350,000 fully paid ordinary shares at Settlement, escrowed until 31 January 2023;
- Dreadnought to pay a further \$300,000 on or by 30 November 2022;
- A 1%Net Smelter Royalty; and
- On the identification and reporting of a JORC compliant inferred resource of >500,000oz gold equivalent, Dreadnought will pay Arrow \$1,000,000.



**Figure 21: Photo of outcropping magnetite banded iron formation at T2, part of the Strickland Copper-Gold Project acquired from Arrow Minerals.**

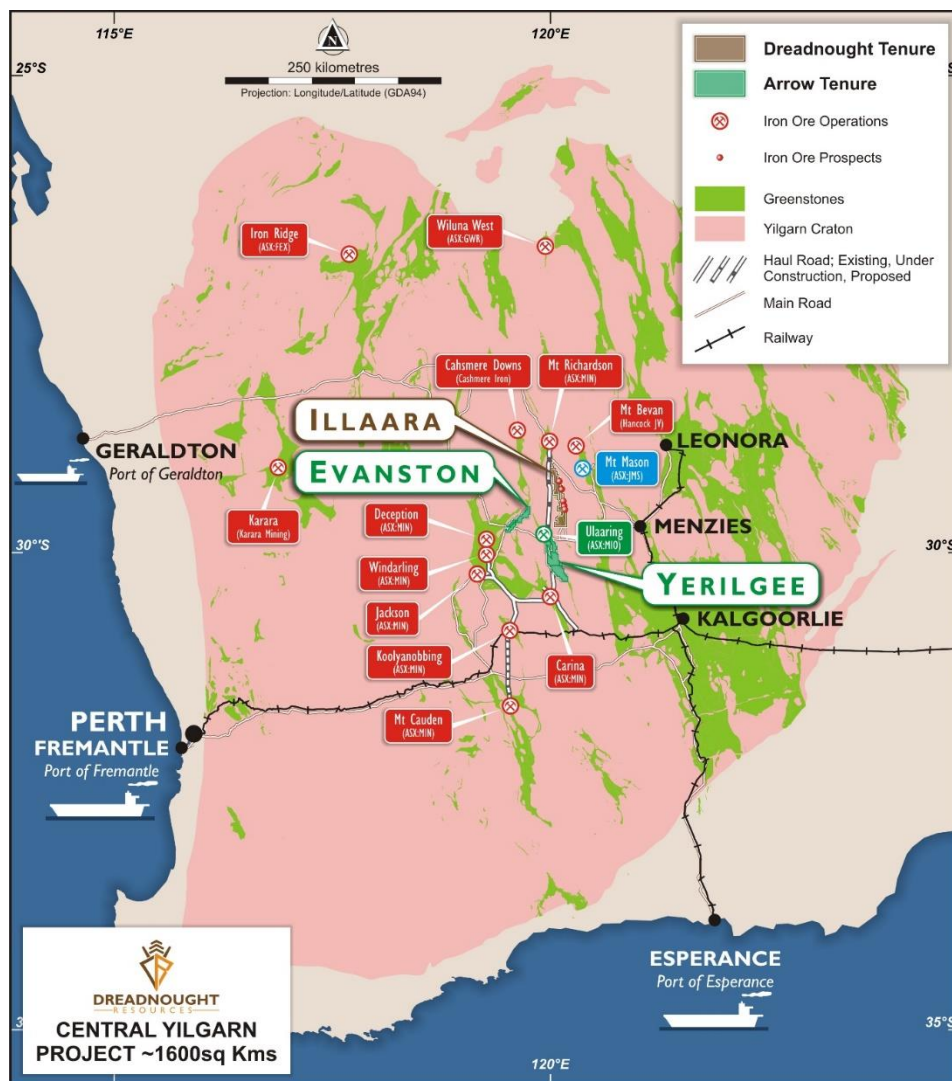


## Background on Central Yilgarn (100%)

The Central Yilgarn Project is located ~190 kms from Kalgoorlie and upon Completion will comprise fourteen tenements (~1,600 sq kms) covering ~150km of strike along the majority of the Illaara, Yerilgee and Evanston greenstone belts. The Central Yilgarn Project has now been consolidated through an acquisition from Newmont, Arrow Minerals and further deals with local prospectors over Metzke's Find, Kings iron ore and others.

Prior to Newmont and Arrow, the Central Yilgarn was held by parties looking to develop iron ore mines north of the Koolyanobbing Iron Ore Operation. Given the long history of iron ore mining in the region, the Central Yilgarn is well situated in relation to existing road and rail infrastructure connecting it to a number of export ports.

Historically, gold was discovered and worked at Rainy Rocks, Metzke's Find and Lawrence's Find in the early to mid 1900s. In addition to gold, outcropping VMS base metals mineralisation was identified and briefly tested in the 1970s and 1980s with no subsequent exploration utilising modern techniques.



**Figure 22: Map of the Yilgarn Craton showing the location of gold and iron ore operations around the Central Yilgarn Project highlighting the location of the Evanston, Yerilgee and Illaara greenstone belts.**

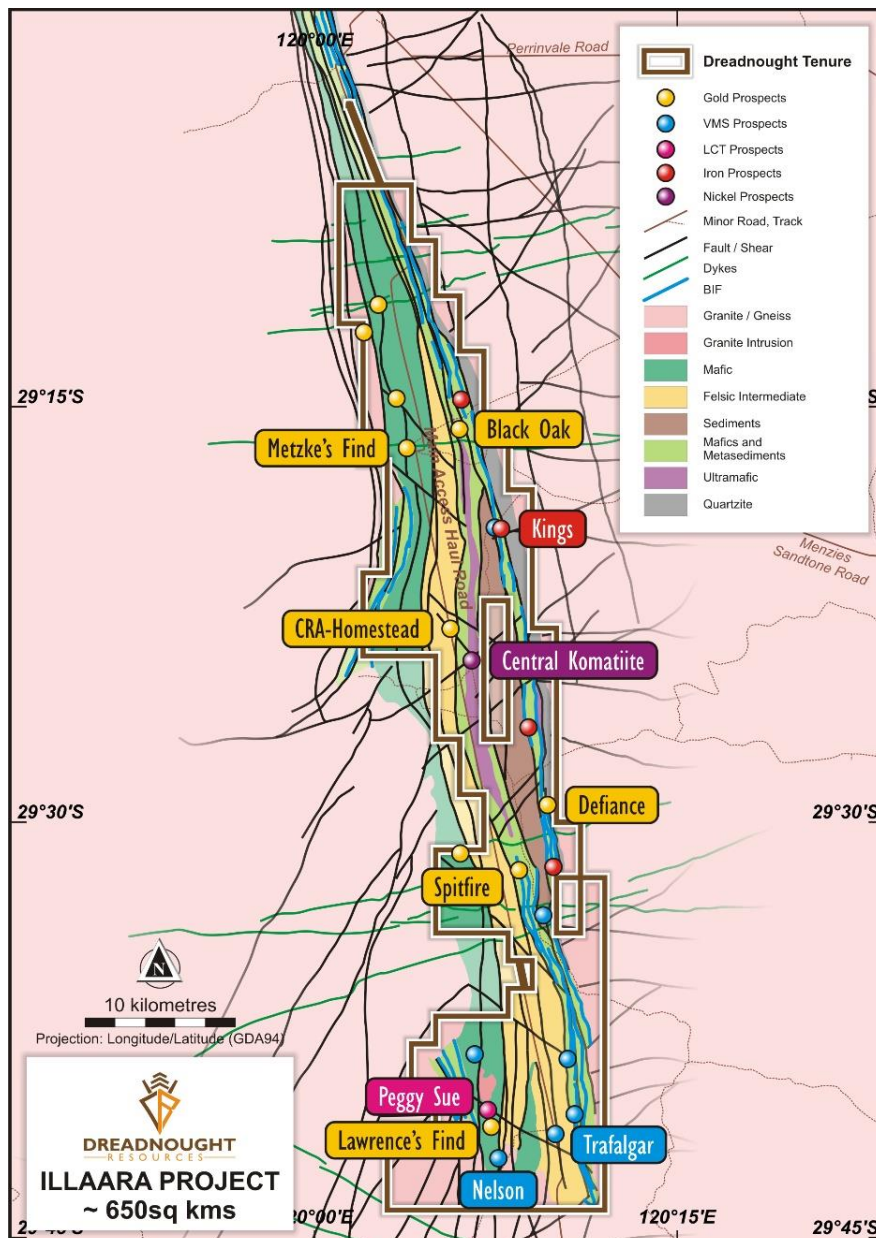
## Drilling Complete at Illaara Project

During the quarter and as announced on 9 May 2022 RC drilling has confirmed that the gold lode at Metzke's Find remains largely unmined with only one hole intersecting historic workings within the top 40m and 15 out of 17 holes intersecting the mineralised structure.

Thick iron and magnetite banded iron formation ("BIF") intersected at Spitfire while targeting a BIF hosted gold system – gold assays pending.

Further fertile lithium-caesium-tantalum ("LCT") pegmatites intersected at Nelson extending the 5km x 2km Peggy Sue LCT pegmatite swarm to the southeast by 0.5km in addition to a VMS exhalative horizon associated with strongly disseminated and blebby pyrite-pyrrhotite+/- sphalerite.

Assay results are expected in August/September 2022.



**Figure 23: Plan view of the Illaara Project showing main prospects and basement geology.**



## Metzke's Find Au

Seventeen RC holes (902m at an average depth of 53m) have been drilled along ~500m of strike of the Metzke's lode. This drilling was undertaken to achieve three objectives:

1. Further define high-grade mineralisation in the top 40m of the lode;
2. Determine the extent of historical shallow diggings; and
3. Test the northern extension of the lode across a proterozoic dyke.

Fifteen of the seventeen holes successfully intersected the mineralised structure over a 5-10m wide shear zone with biotite and pyrite alteration. Visible gold was observed hosted in subvertical sugary quartz-pyrite-gold veins of variable thickness within the shear zone.

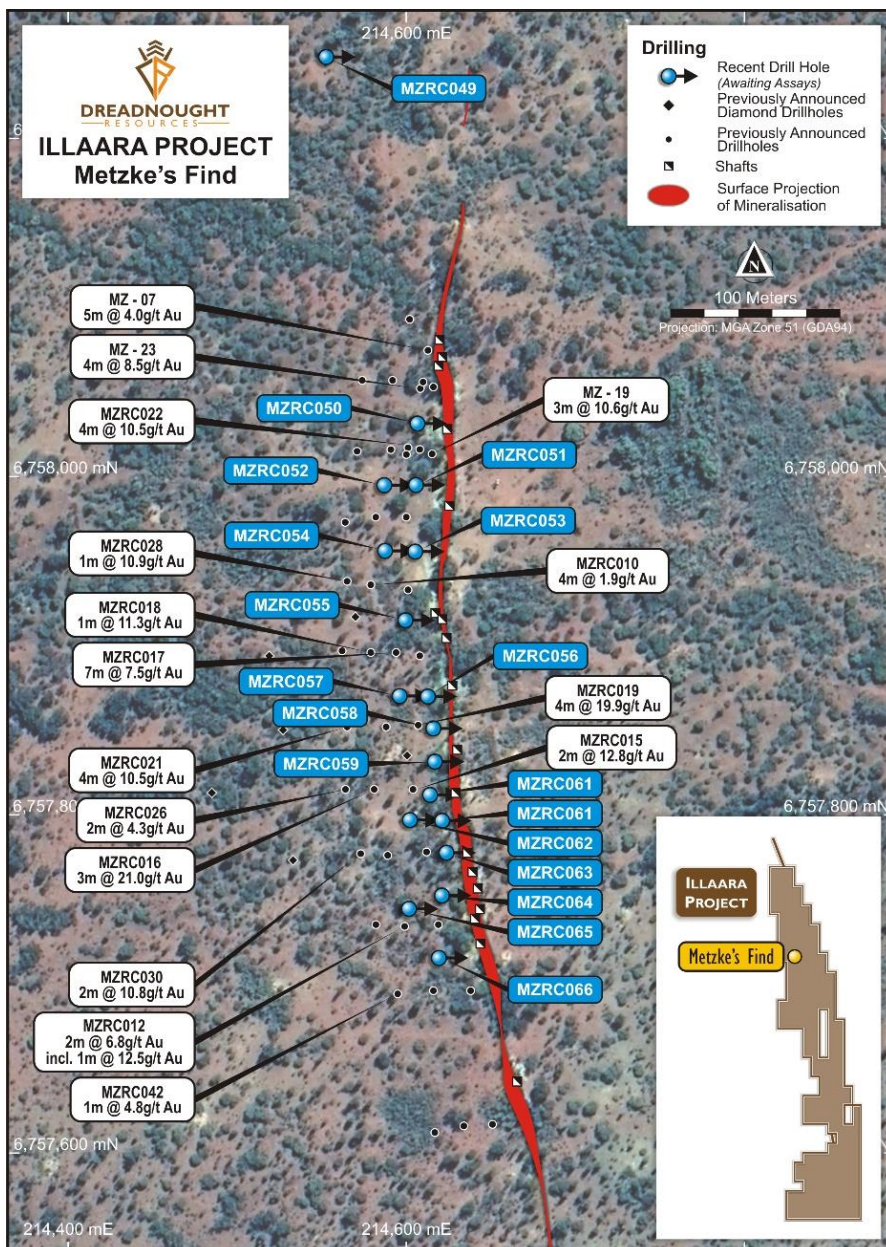


The northern drill hole across the proterozoic dyke did not intersect the mineralised structure, leaving potential for an offset of the shear open and untested to the north. A further hole intersected a deep shaft.

All assays are expected in August/September 2022 with a JORC Resource expected in the December 2022 quarter.

**Figure 24 (above):** Panned visible gold from the Metzke's lode in hole MZRC050 at 25-26m depth.

**Figure 25 (left):** Planned view image showing the location of recently completed drilling in relation to previous drilling at Metzke's Find



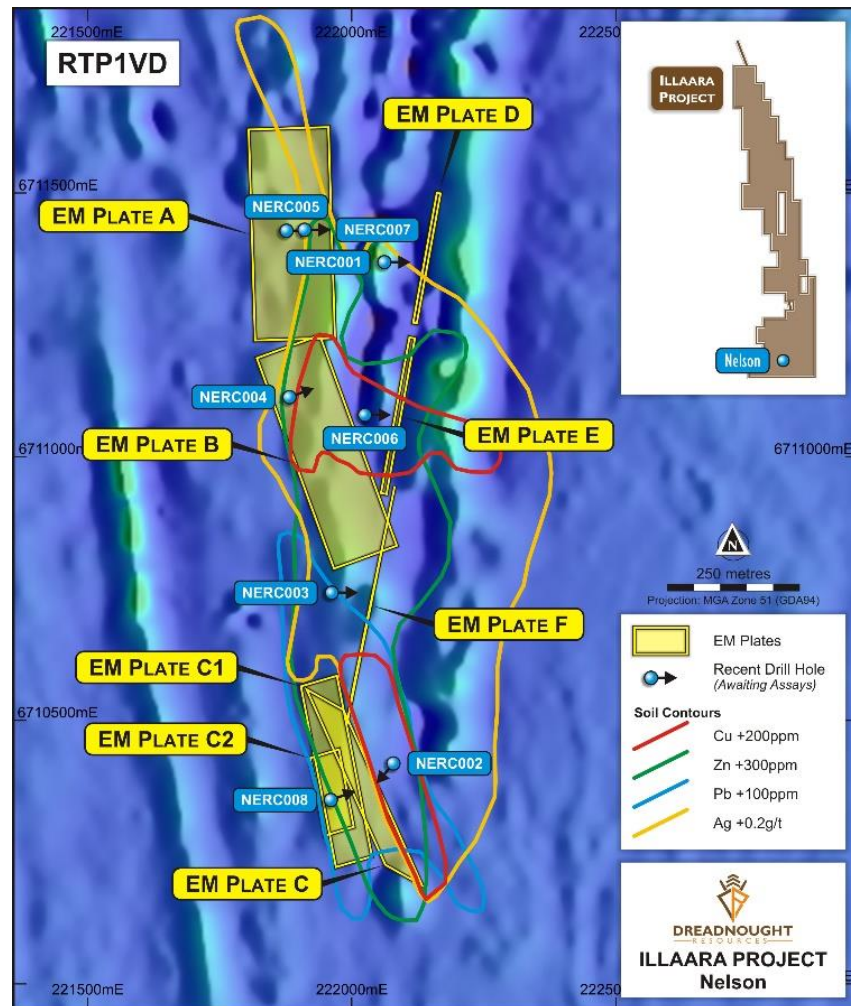
## Nelson Cu-Pb-Zn-Ag

Nelson is defined by a 1,500m x 350m Cu-Pb-Zn-Ag and VMS pathfinder (Au, Cd, In, Sn, Tl) in soil anomaly with six coincident highly conductive EM anomalies. The lithological setting and geochemical/geophysical signature of Nelson are analogous to the Jaguar VMS deposit located ~160km to the northeast.

Two additional holes (377m) were drilled at Nelson targeting off hole EM anomalies. A strong off hole conductive body was above a previous drill hole (NERC005). In addition, the down hole EM survey of NERC002, where 17m of disseminated sulphide mineralisation was intersected from 187m, including 4m of massive pyrite-pyrrhotite and minor chalcopyrite from 197m, identified two additional conductive bodies. One body was above NERC002 and another sub-vertical to NERC002.

Both holes intersected meta-sedimentary rocks at the target exhalative horizon, displaying strongly disseminated and blebby pyrite-pyrrhotite  $\pm$  sphalerite at target depth effectively testing the off-hole conductors. In addition, one hole (NERC007) intersected multiple, up to 25m thick, fertile pegmatites with visible tantalum mineralisation.

The stratigraphy at Nelson represents a typical seafloor exhalative environment, consisting of basalts, volcanoclastic sediments and black shales. A coherent exhalative horizon was identified at the clastic sediment/basalt contact in several holes associated with distal exhalative sulphides dominated by pyrite, pyrrhotite and varying amounts of chalcopyrite, sphalerite and galena. The underlying basalts also displayed significant hydrothermal epidote + chlorite alteration, a typical proximal signature to VMS mineralisation.



In addition, intersections of pegmatite (up to 34m wide) were observed in previous drilling at Nelson, extending the 5km x 2km Peggy Sue LCT pegmatite swarm to the southeast by 0.5km where it extends undercover.

All assays are expected August/September 2022.

**Figure 26: Plan view of Nelson showing the modelled EM plates in relation to Cu-Pb-Zn-Ag in soil contours over a magnetic image. The location of recent drill holes is also shown.**



### Spitfire Au, Iron Ore

Three fence lines of RC drilling (17 holes, 2,646m) were drilled at Spitfire targeting a coincident high tenor gold in soil anomaly and de-magnetised BIF horizon.

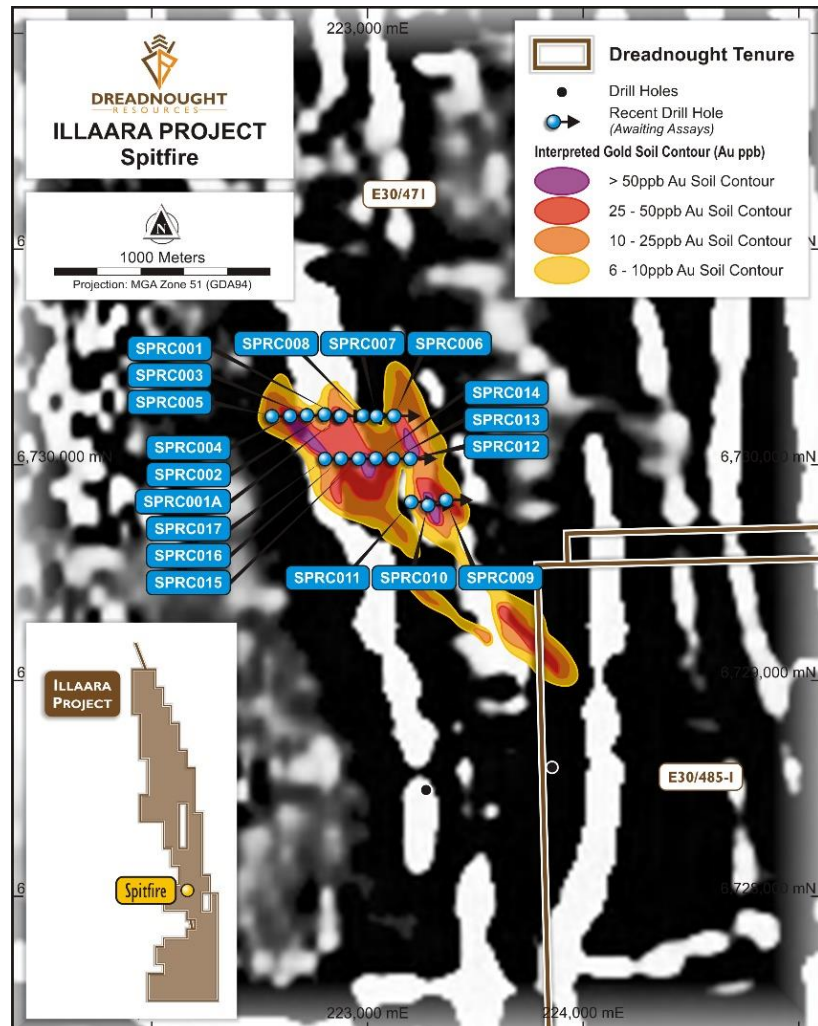
The stratigraphy consisted of a western volcanoclastic sequence of BIF, shale basalts and dolerites overlying an eastern komatiitic and cumulate facies ultramafic sequence – part of the Central Komatiite Belt.

Peak gold-in-soil anomalies were associated with the BIF and sheared, magnetite-sulphide altered basalts.

A thick 25-35m interval of goethite-haematite was intersected in the first drill hole along with strongly magnetic BIF. The magnetic BIF is being assessed to determine it can make a suitable magnetite concentrate.

The intersection of goethite-haematite and magnetite is a positive development given the recent activity in the region by Hancock Prospecting's investment in the Mt Bevan iron ore project and Mineral Resources Ltd's ongoing studies to convert the Yilgarn to a magnetite hub.

All results are expected in August/September 2022.



**Figure 27: Plan view image of Spitfire showing the location of recently completed drilling in relation to gold-in-soil anomalies over a magnetic image.**

### Kings Iron Ore

Seventeen holes for 978m were drilled at Kings to test for continuation of high-grade iron ore undercover along strike from historical drilling. All holes intersected partially mineralised and heavily oxidised BIF.

Assays are expected in August/September 2022.

**Tarraj-Yampi (E04/2315) 80% and (E04/2508) 100%**

During the quarter, a low-impact auger program, designed to identify additional massive sulphide deposits like the 2021 Orion discovery, commenced at Tarraj. The low impact auger sampling system was specially designed for Taraji-Yampi allowing Dreadnought to commence activities earlier in the season, before road access has been re-established, extending and maximizing the dry season.

As announced on 22 June 2022, Results from 971 of 1,695 auger samples received covering the greater ~4km x 1km Orion trend at Tarraj-Yampi.

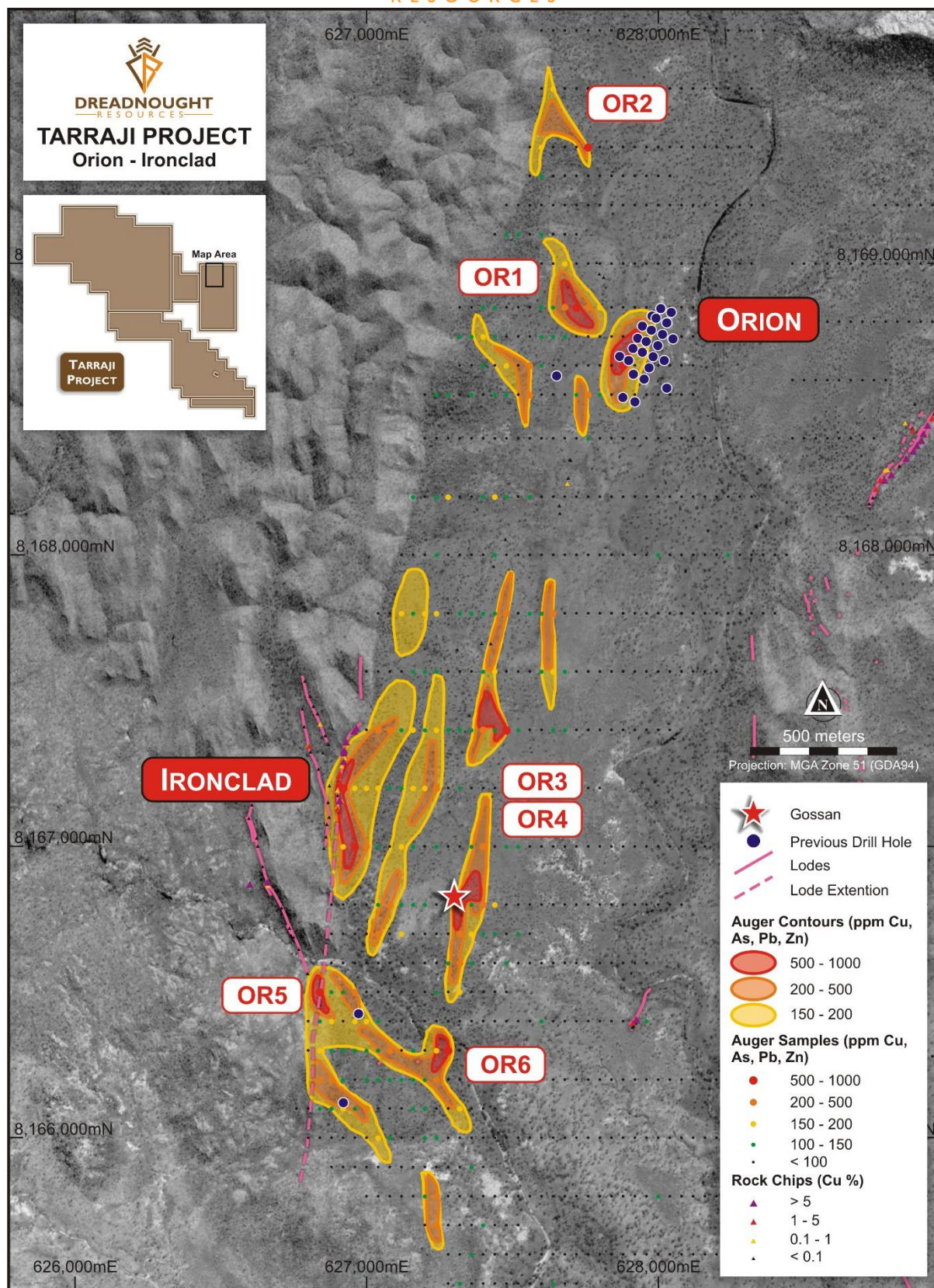
Seven high-quality targets (Ironclad, OR1-6), with similar geochemical and geophysical signatures to Orion have been defined. Of the seven targets, two (Ironclad, OR4) are associated with outcropping mineralisation with OR3 and OR4 both associated with untested Fixed Loop EM (“FLEM”) conductors.

724 samples remain outstanding with results expected in July 2022. The RC drilling program for these and other regional targets is expected to commence in August/September 2022



**Figure 28: OzEx's Jonathan and Gus with the auger system at Orion with support from Frontier Helicopters in the background.**





**Figure 29: Plan view image showing the Cu-Pb-Zn-As in saprolite contours over an orthoimage showing the location of the named prospects, previous drilling and rock chips.**

## Discussion of Results

Geochemical orientation work at the Orion discovery has shown that black plains soils, which cover most of Tarraji-Yampi, obscure the geochemical signature of the massive sulphide mineralisation at surface, rendering surface geochemical surveys ineffective. However, the cover at Orion is only 1-5m thick and the weathered saprolite material beneath the cover expressed a ~300m x 60m geochemical anomaly with a peak value of ~3,000 ppm Cu+Pb+Zn+As directly above the massive sulphide mineralisation.

The results of the first pass 200m x 40m and 100m x 40m auger sampling over the 4km x 1km long Orion trend have highlighted seven targets (Ironclad, OR1-6) all greater than 10x background (~50ppm Cu+Pb+Zn+As) with similar lithostructural settings and geophysical signatures to Orion.

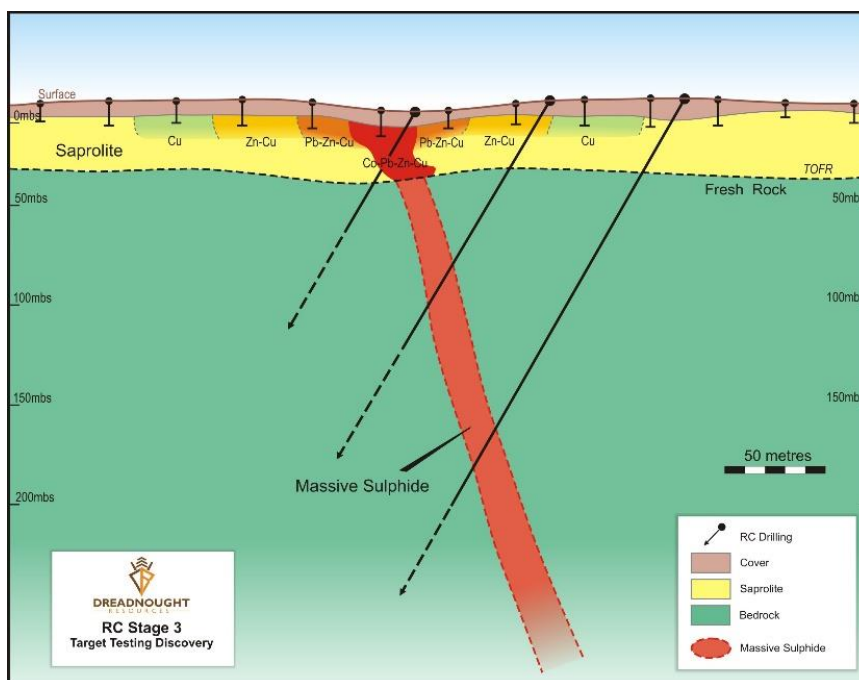
**Table 1: Target Summaries including the results over the Orion discovery**

Target ID	Strike (m)	Width (m)	Peak Value (Cu+Pb+Zn+As)	EM Conductor	Magnetic Anomaly	Outcropping Mineralisation
Orion discovery	300	60	3,150 ppm	Yes	Yes	Under Cover
Ironclad	1,150	150	2,145 ppm	Not Surveyed	No	Yes
OR1	300	150	1,040 ppm	Not Surveyed	Yes	Under Cover
OR2	300	150	550 ppm	Not Surveyed	Yes	Under Cover
OR3	650	100	1,230 ppm	Yes	Yes	Under Cover
OR4	700	100	630 ppm	Yes	No	Yes
OR5	400	200	540 ppm	Not Surveyed	Yes	Under Cover
OR6	200	100	540 ppm	Not Surveyed	Yes	Under Cover

## Next Steps

A further 724 samples remain outstanding with results expected in July 2022.

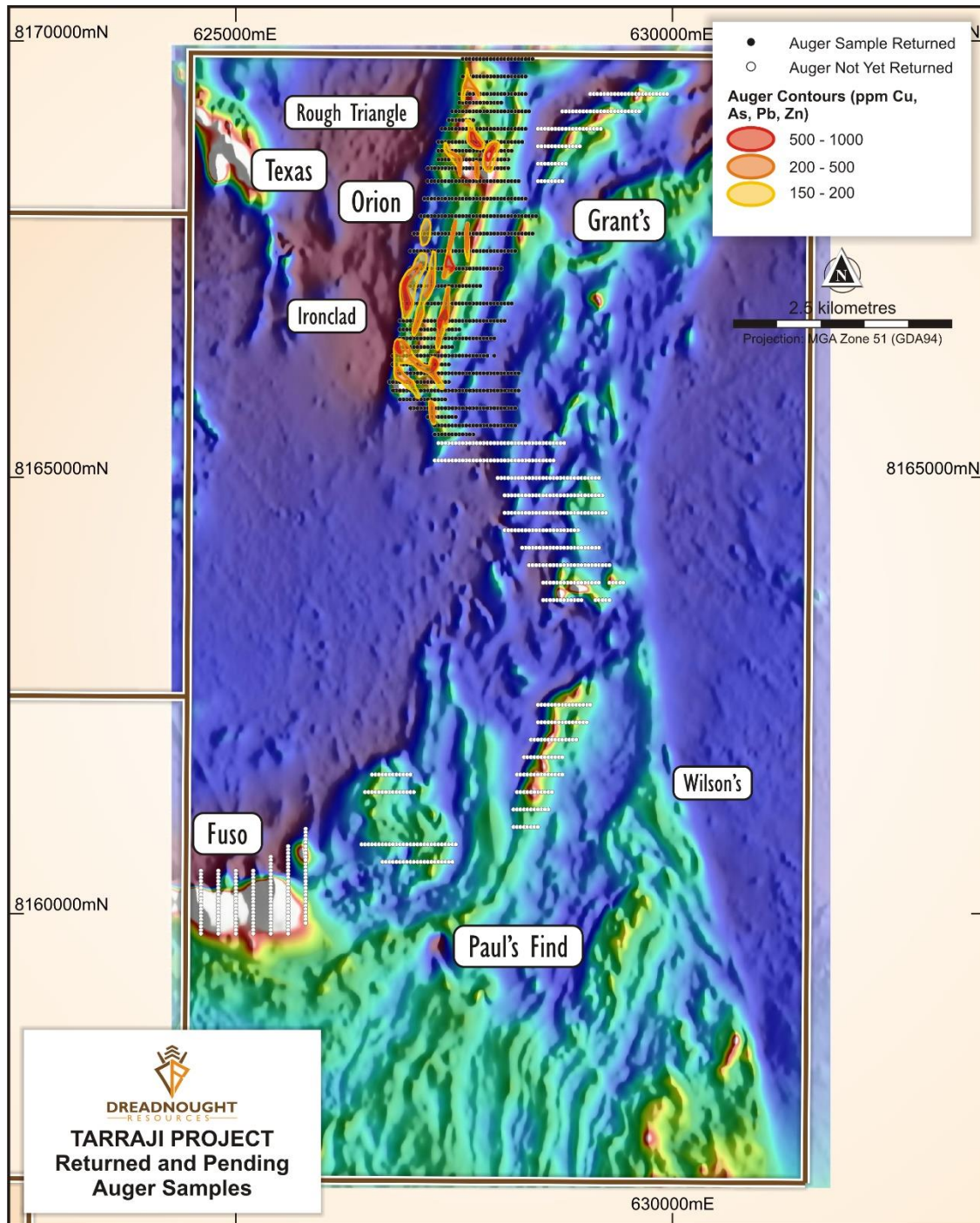
All targets without FLEM surveys (Ironclad, OR1, OR2, OR5, OR6) will be surveyed in August 2022 in preparation for RC drilling expected to commence in August/September 2022.



Given the technical success of the auger sampling program, further auger sampling will be undertaken as part of the wider exploration program commencing in August/September 2022.

**Figure 30: Conceptual cross-sectional view illustrating target testing/discovery (RC drilling) based off surface auger sampling anomalies.**



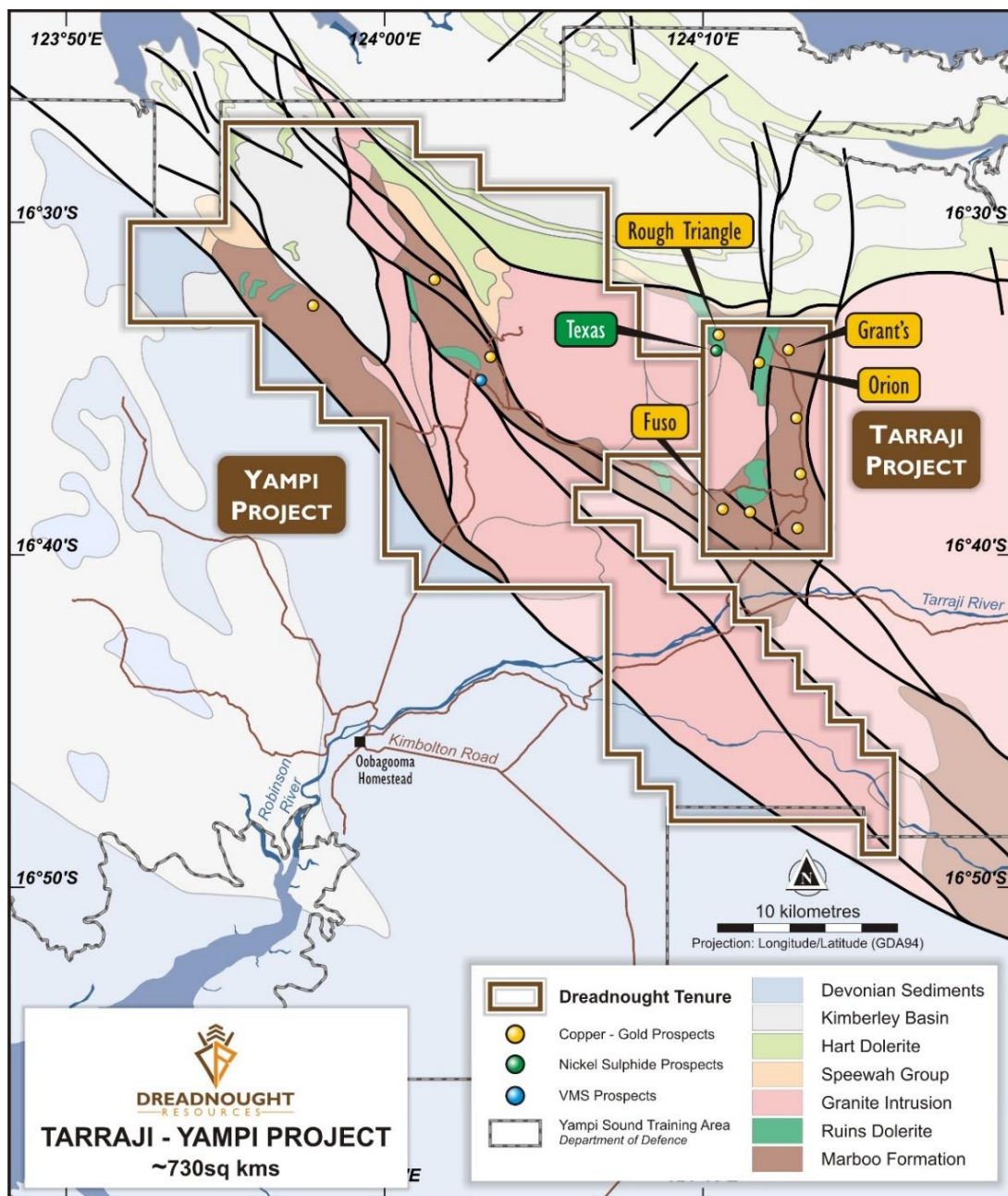


**Figure 31: Plan view image showing the location of ~auger sampling points (white dots) over magnetic imagery at Tarraji-Yampi.**

## Background on Tarraji-Yampi

Tarraji-Yampi is located entirely within the Yampi Sound Training Area ("YSTA"), a Commonwealth Defence Reserve in the West Kimberley, ~80kms from the port of Derby. The YSTA is the second largest defence reserve in Australia after Woomera in South Australia and was off limits to mineral exploration from 1978 to 2013.

The only significant exploration undertaken in the area was by WMC Resources in 1958 and Australian Consolidated Minerals in 1972, with both parties exploring for copper. Since opening for exploration in 2013, Dreadnought has secured the largest ground holding within the YSTA and developed strong working relationships with both the Department of Defence and the Dambimangari People.



**Figure 32: Plan view map of the Tarraji-Yampi project highlighting the location of current prospects.**



## CORPORATE

### Appendix 5B Disclosures:

- The Company's accompanying Appendix 5B (Quarterly Cashflow Report) includes the Director salaries (including superannuation) of \$60k (Item 6.1) and \$73k (Item 6.2) which were apportioned between corporate and exploration work respectively.
- During the period, the Company spent \$2.36m on exploration activities in WA. The expenditure represents direct costs associated with the various surveys, drilling programs and associated assays outlined in this report.
- At the end of the quarter, the Company had an amount of \$2.5 million cash at bank.



**Figure 33: Dreadnought's Dean Tuck, Matt Crowe, Luke Blais and Frank Murphy at the Tarraji-Yampi exploration camp.**

## ASX Announcements

During the quarter, the Company made 16 ASX announcements, 14 of which were market sensitive. These announcements were as follows:

23/06/2022	Gold Coast Investment Showcase Presentation
22/06/2022	Orion Auger Program - Tarraji-Yampi Project
17/06/2022	Further Gold Consolidation - Mangaroon Project
16/06/2022	First Drilling at Yin Intersects High-Grade Rare Earths
14/06/2022	Trading Halt
10/06/2022	Drilling Successfully Completed at Mangaroon Ni-Cu-PGE JV
30/05/2022	Change of Director's Interest Notice - Paul Payne
16/05/2022	Drilling Intersects Magmatic Ni-Cu Sulphides at Mangaroon
11/05/2022	Drilling Commenced at Mangaroon Project
09/05/2022	Drilling Complete at Illaara Project
03/05/2022	RIU Sydney Resources Round-Up Presentation
29/04/2022	EIS Drilling Grants for Mangaroon REE and Orion Cu-Ag-Au-Co
29/04/2022	Quarterly Activities Report - March 2022
29/04/2022	Quarterly Cashflow Report - March 2022
19/04/2022	Commencement of Regional Auger Program - Tarraji-Yampi
04/04/2022	Nelson and Trafalgar Drilling Update - Illaara Project

**Acknowledgements:**

Dreadnought would like to acknowledge the continued support of the Dambimangari People, Department of Defence, our Joint Venture Partners Whitewater Resources Pty Ltd and First Quantum Minerals, Frontier Helicopters, Southern Geoscience Consultants, Hagstrom Drilling, Ausdrill, Golden Connection, Onshore Environmental and Derby Stock Supplies.

**UPCOMING NEWSFLOW**

**August:** Further update on REE drilling at Yin and Y3 ironstones (Mangaroon)

**August:** Assays from Peggy Sue pegmatite sampling (Central Yilgarn)

**August:** Assays from RC drilling at Nelson, Trafalgar, Metzke's Find, Kings, Spitfire (Central Yilgarn)

**August:** Results from Central Komatiite Belt nickel sulphide target generation work (Central Yilgarn)

**August:** Remaining results from auger sampling program at Tarraji-Yampi

**August:** Assays from RC drilling at the Money Intrusion (FQM JV)

**August/September:** REE assays from RC drilling ironstones / carbonatites (Mangaroon)

**August/September:** Initial JORC Resource for Metzke's Find Au (Central Yilgarn)

**August/September:** Commencement of RC and diamond drilling at Tarraji-Yampi (Orion, Grant's, regional targets)

~Ends~

For further information please contact:

**Dean Tuck**

Managing Director

Dreadnought Resources Limited

E:[dtuck@dreadnoughtresources.com.au](mailto:dtuck@dreadnoughtresources.com.au)

**Jessamyn Lyons**

Company Secretary

Dreadnought Resources Limited

E:[jlyons@dreadnoughtresources.com.au](mailto:jlyons@dreadnoughtresources.com.au)

*This announcement is authorised for release to the ASX by the Board of Dreadnought.*

**Competent Person's Statement**

*The information in this announcement that relates to geology and exploration results and planning was compiled by Mr. Dean Tuck, who is a Member of the AIG, Managing Director, and shareholder of the Company. Mr. Tuck has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Tuck consents to the inclusion in the report of the matters based on the information in the form and context in which it appears.*

*The Company confirms that it is not aware of any new information or data that materially affects the information in the original reports, and that the form and context in which the Competent Person's findings are presented have not been materially modified from the original reports.*





## SCHEDULE OF INTERESTS IN MINING TENEMENTS (As at 30 June 2022)

Tenement	Project	Location	Status	Interest Start of Quarter	Interest End of Quarter
E04/2315	Tarraj	Kimberley, WA	Granted	80% <sup>1</sup>	80% <sup>1</sup>
E04/2508	Yampi	Kimberley, WA	Granted	100%	100%
E04/2557	Yampi	Kimberley, WA	Granted	100%	100%
E04/2572	Yampi	Kimberley, WA	Granted	100%	100%
E04/2608	Yampi	Kimberley, WA	Granted	100%	100%
E04/2675	Yampi	Kimberley, WA	Application	-	-
E04/2676	Yampi	Kimberley, WA	Application	-	-
E04/2560	Wombarella	Kimberley, WA	Granted	100%	100%
E04/2573	Mt Humbert	Kimberley, WA	Granted	100%	100%
E04/2574	Mt Humbert	Kimberley, WA	Application	-	-
E04/2815	King Creek	Kimberley, WA	Application	-	-
E04/2816	King Creek	Kimberley, WA	Application	-	-
P04/306	Wombarella	Kimberley, WA	Granted	-	100%
P04/307	Wombarella	Kimberley, WA	Granted	-	100%
P04/308	Wombarella	Kimberley, WA	Granted	-	100%
P04/309	Wombarella	Kimberley, WA	Application	-	-
E29/957	Illaara	Yilgarn, WA	Granted	100%	100%
E29/959	Illaara	Yilgarn, WA	Granted	100%	100%
E29/965	Illaara	Yilgarn, WA	Granted	0% <sup>3</sup>	0% <sup>3</sup>
E29/1050	Illaara	Yilgarn, WA	Granted	100%	100%
E30/471	Illaara	Yilgarn, WA	Granted	100%	100%
E30/476	Illaara	Yilgarn, WA	Granted	100%	100%
E30/485	Illaara	Yilgarn, WA	Granted	0% <sup>3</sup>	0% <sup>3</sup>
E30/534	Illaara	Yilgarn, WA	Application	-	-
E09/2359	Mangaroon	Gascoyne, WA	Granted	100%	100%
E09/2370	Mangaroon	Gascoyne, WA	Granted	100%	100%
E09/2384	Mangaroon	Gascoyne, WA	Granted	-	100%
E09/2405	Mangaroon	Gascoyne, WA	Granted	0%	100%
E09/2433	Mangaroon	Gascoyne, WA	Granted	-	100%
E09/2448	Mangaroon	Gascoyne, WA	Application	-	-
E09/2449	Mangaroon	Gascoyne, WA	Application	-	-
E09/2450	Mangaroon	Gascoyne, WA	Application	-	-
E09/2467	Mangaroon	Gascoyne, WA	Application	-	-
E09/2473	Mangaroon	Gascoyne, WA	Granted	-	100%
E09/2478	Mangaroon	Gascoyne, WA	Granted	-	100%
E09/2531	Mangaroon	Gascoyne, WA	Application	-	-
E09/2535	Mangaroon	Gascoyne, WA	Granted	-	100%
E09/2616	Mangaroon	Gascoyne, WA	Application	-	-
E09/2620	Mangaroon	Gascoyne, WA	Application	-	-
E08/3178	Mangaroon	Gascoyne, WA	Granted	-	100%
E08/3274	Mangaroon	Gascoyne, WA	Granted	-	100%
E08/3275	Mangaroon	Gascoyne, WA	Application	-	-
E08/3439	Mangaroon	Gascoyne, WA	Granted	-	100%

1. E04/2315 subject to an 80/20 JV with Whitewater Resources Pty Ltd.

2. Subject to an option agreement (ASX Release 6/12/2019 "Consolidation of 75km Long Illaara Greenstone Belt")

## INVESTMENT HIGHLIGHTS

### Kimberley Ni-Cu-Au Projects

Dreadnought controls the second largest land holding in the highly prospective West Kimberley region of WA. The main project area, Tarraji-Yampi, is located only 85kms from Derby and has been locked up as a Defence Reserve since 1978.

Tarraji-Yampi presents a rare first mover opportunity with known outcropping mineralisation and historic workings from the early 1900's which have seen no modern exploration.

Results to date indicate that there may be a related, large scale, Proterozoic Cu-Au-Ag-Bi-Sb-Co system at Tarraji-Yampi, similar to Cloncurry / Mt Isa in Queensland and Tennant Creek in the Northern Territory.

### Mangaroon Ni-Cu-PGE JV & REE Au Project

Mangaroon is a first mover opportunity covering ~4,500sq kms located 250kms south-east of Exmouth in the vastly underexplored Gascoyne Region of WA.

Part of the project is targetting Ni-Cu-PGE and is subject to a joint venture with First Quantum Minerals (earning up to 70%). The joint venture area contains outcropping high tenor Ni-Cu-PGE blebby sulphides in the recently defined Money Intrusion

Dreadnought's 100% owned areas contain outcropping high-grade gold bearing quartz veins along the Edmund and Minga Bar Faults and outcropping high-grade REE ironstones, similar to those under development at the Yangibana REE Project. Recently five potentially REE bearing carbonatite intrusions have been identified which may also be the source of the regional rare earths.

### Illaara Gold, Base Metals, Critical Minerals & Iron Ore Project

Illaara is located 190km northwest of Kalgoorlie in the Yilgarn Craton and covers 75kms of strike along the Illaara Greenstone Belt. Illaara is prospective for typical Archean mesothermal lode gold deposits, VMS base metals and critical metals including Lithium-Caesium-Tantalum.

Dreadnought has consolidated the Illaara Greenstone Belt mainly through an acquisition from Newmont. Prior to Newmont, the Illaara Greenstone Belt was predominantly held by iron ore explorers and remains highly prospective for iron ore.

